RECORD OF DECISION

Cinnaminson Groundwater Contamination Superfund Site

Operable Unit 2

Townships of Cinnaminson & Delran, Burlington County, New Jersey

United States Environmental Protection Agency

Region 2

July 2014

260279

DECLARATION STATEMENT

RECORD OF DECISION

SITE NAME AND LOCATION

Cinnaminson Groundwater Contamination Superfund Site
Operable Unit 2
EPA ID# NJD980785638
Townships of Cinnaminson & Delran, Burlington County, New Jersey

STATEMENT OF BASIS AND PURPOSE

This decision document presents the selected remedy for the Cinnaminson Groundwater Contamination Superfund Site – Operable Unit 2 (Site), in the Townships of Cinnaminson and Delran, Burlington County, New Jersey. The selected remedy was chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986(CERCLA),42 U.S.C. 9601 *et seq.*, and to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300 *et seq.* This decision is based on the Administrative Record established for this Site.

The State of New Jersey concurs with the Selected Remedy.

DESCRIPTION OF THE SELECTED REMEDY

This document applies to the second of four planned operable units (OU) for the Cinnaminson Groundwater Contamination Site. It addresses source control via the prior capping of two landfills that are part of the Site. The United States Environmental Protection Agency (EPA), in consultation with the State of New Jersey has determined that previous response actions at the Site have eliminated existing or potential risks to human health and the environment such that no action is necessary for this phase of work.

DECLARATION OF STATUTORY DETERMINATIONS

In accordance with the requirements of CERCLA and the NCP, it has been determined that no remedial action is necessary for the second operable unit of the Cinnaminson Groundwater Contamination Site to ensure protection of human health and the environment.

However, because the remedy will result in hazardous substances, pollutants, or contaminants remaining above levels that allow for unlimited use and unrestricted exposure, five-year reviews of the remedy will be required.

for J. W. E. La Porta

July 31, 2014

Walter E. Mugdan, Director
Emergency & Remedial Response Division
EPA - Region 2

Date

DECISION SUMMARY

Cinnaminson Groundwater Contamination Superfund Site,

Townships of Cinnaminson & Delran, Burlington County, New Jersey

United States Environmental Protection Agency

Region 2

July 2014

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SITE NAME, LOCATION AND DESCRIPTION

The Cinnaminson Groundwater Contamination Site (Site) covers approximately 400 acres and is considered an area-wide groundwater contamination site. The Site is located in the Townships of Cinnaminson and Delran, Burlington County, New Jersey and includes properties bounded by Union Landing Road, Route 130, River Road and Taylors Lane. The Site area includes two closed landfills, along with residential and light to heavy industrial properties (Figure 1).

The Delaware River is located northwest of the Site and U.S. Route 130 passes southeast of the Site. Two small streams, Pompeston Creek and Swede Run provide run-off from the Site into the Delaware River.

A component of the 400-acre area-wide groundwater contamination Site is the two unlined landfills operated by Sanitary Landfill Inc., (SLI LFs) and these are the subject of this Record of Decision (ROD). The SLI LFs are also known as the northwest and southeast landfills. The SLI LFs are considered a major source of groundwater contamination at the Site.

SITE HISTORY AND ENFORCEMENT ACTIVITIES

The landfill property within the Site area was originally owned by Lockhart Construction Company and was operated as a sand and gravel mining pit. The depth of the mining excavations ranged from 20 feet to between 60 to 70 feet below the current surface elevation.

During the late 1950s, municipal solid waste was deposited into the completed mining pits while sand and gravel mining continued on other parts of the property. When mining operations ceased in the late 1960s, larger amounts of refuse and solid wastes were deposited into the abandoned pits.

SLI purchased the property, which included the northwest landfill and southeast landfill, in 1970 and was permitted by the New Jersey Department of Environmental Protection (NJDEP) to continue landfilling operations. Municipal and institutional wastes, bulky wastes, dry and liquid sewage sludge, construction and demolition wastes, vegetable and food processing wastes, and industrial wastes, including hazardous substances were deposited in the two areas. An average of 240,000 tons per year of waste was deposited at the Site during the 1970s. The landfill

operations completely filled pits formed by the sand and gravel excavations and rose from 10 to 40 feet above the original surface elevation.

On September 27, 1980, NJDEP issued an Administrative Order to SLI to close the SLI LFs. In 1981, SLI submitted a closure plan for the SLI LFs, which was approved by NJDEP that year.

As part of the approved closure plan, the two landfill areas were to be capped with 18 inches of clay. The approved closure plan also required the installation of a landfill gas collection and venting system, and the initiation of a groundwater monitoring program. The capping requirements were further detailed in an NJDEP Administrative Consent Order (ACO) with SLI issued in October 1984 and were based on *"Plans for Closure of Sanitary Landfill, Inc.,"* dated May 1984.

Concurrent with the landfill closure activities, groundwater contamination, primarily with volatile organic compounds (VOCs), was detected near the landfills. In October 1984, EPA proposed the Cinnaminson Groundwater Contamination Site to the National Priorities List (NPL) and it became final on the NPL in June 1986.

Verification of groundwater contamination was based in part on the results of groundwater monitoring performed by SLI, as required by the NJDEP-approved closure plan.

The overall Site cleanup is being addressed by EPA in four phases or operable units (OU). Operable Unit 1(OU1) addresses groundwater contamination and was originally expected to be a comprehensive Site remedy. While other potential sources were identified, the OU1 RI concluded that the SLI LFs were a primary source of groundwater contamination. Subsequent investigations have led to other significant VOC sources and additional operable units for the Site *(*see *Scope and Role of the Action*). Operable Unit 2 (OU2), the subject of this ROD addresses the effectiveness of the existing SLI LF caps. Operable Unit 3 (OU3) addresses the contamination associated with the former BOC Gases facility, and Operable Unit 4 (OU4) addresses other groundwater contamination outside of areas already under remediation or investigation. The operable units are summarized below.

OU1: Contaminated Groundwater

EPA conducted the OU1 Remedial Investigation (OU1 RI) from 1985 to 1989 to determine the sources, and nature and extent of

groundwater contamination. The OU1 RI activities included field surveys, hydrogeologic investigations, groundwater sampling, surface water/sediment sampling and potable well sampling. The OU1 RI identified the presence of VOCs in two aquifers, using data from 87 monitoring wells. VOCs detected in the groundwater included vinyl chloride, 1,2-dichloroethane, trichloroethene (TCE), tetrachloroethene (PCE), trichloroethane, and benzene.

EPA conducted a risk assessment to evaluate the potential risks to human health and the environment associated with the Site. The risk assessment concluded that contaminated groundwater is the exposure medium of greatest concern, resulting in the following OU1 Remedial Action Objectives (RAOs):

- to satisfy applicable or relevant and appropriate local, State and Federal requirements (ARARs);
- to reduce continued degradation of the groundwater; and,
- to prevent contaminants from migrating toward existing municipal drinking water wells.

An OU1 Feasibility Study (OU1 FS) was prepared by EPA and completed in 1989.

The OU1 Record of Decision (OU1 ROD), dated September 28, 1990, selected the following remedy to address contaminated groundwater:

- Extraction and treatment of contaminated groundwater from both the shallow and deep aquifers;
- Reinjection of treated water into the deep aquifer; and
- Installation and monitoring of additional wells to ensure the effectiveness of the remedy.

In June 1991, EPA issued a Unilateral Administrative Order (1991 UAO) to SLI, a predecessor to SC Holdings, Inc., (SCH) that required implementation of the groundwater remedy described in the OU1 ROD. Pre-design investigatory work provided new information on groundwater flow rates and the extent of contamination. This new information suggested that the OU1 ROD may have overestimated the size and scope of extraction and treatment system needed to achieve all the RAOs. In response to this new information, the original scope of the OU1 remedial design (OU1 RD) was revised. The revised OU1 RD involved changes to the number and location of extraction wells that focused on

groundwater releases from the SLI LFs and the properties immediately adjacent and upgradient (north) of the SLI property, to determine whether a smaller scale system could still meet the expectations of the OU1 ROD. The revised OU1 RD was approved by EPA in January 1999.
Construction of the approved OU1 groundwater remedial action (OU1 RA) began in January 1999 and was completed in April 2000. Full operation of the groundwater remediation system began in May 2000. The groundwater remediation system has captured and treated contaminated groundwater and prevented contaminants from migrating toward existing municipal drinking water wells, which are two of the OU1 RAOs.

SCH has operated and monitored performance of the OU1 RA since 2000, with EPA oversight. After approximately ten years of operation, SCH indicated that the effectiveness of the extraction and treatment system to further improve groundwater conditions in the area downgradient of the SLI LFs had decreased, primarily because the VOC concentrations had been reduced in the extraction zone.

In May 2013, SCH submitted a request to perform a "pump and treat system monitoring assessment/shutdown test." The purpose of the pump and treat system monitoring/shutdown test will be to enable EPA to make a determination regarding the efficacy of continued operation of the groundwater remediation system to address the OU1 groundwater plume. The proposed two-year assessment period will allow conditions to be rigorously evaluated for a defined period so that conditions before and after the shutdown test can be compared. The work plan for the shutdown test was approved by EPA and initiated by SCH in July 2013.

OU2: Landfill Cap and Gas Mitigation System

Construction of the closure caps for the SLI LFs, pursuant to the NJDEP ACO dated October 1984, began in 1985 and was completed in 1987. In April 1989, NJDEP gave their acceptance of the final cap construction. While not part of the Superfund action, EPA and NJDEP conferred on NJDEP's requirements.

The OU1 FS originally identified and evaluated three source control/landfill cap alternatives. However, the OU1 ROD stated that additional information and data were needed to determine the long-term effectiveness of the existing cap. Therefore, landfill caps were not addressed in the OU1 ROD, but rather were to be the subject of a subsequent ROD.

The OU1 RI recognized that the SLI LFs had been previously closed and capped with the approval of NJDEP, under New Jersey solid waste regulations. The OU1 ROD deferred evaluation of a source control action (i.e., the adequacy of the landfill caps) until after the construction and operation of the remedy to address the migration of contaminated groundwater (OU1 RA).
EPA's 1991 UAO included requirements for a remedial design work plan (OU1 RDWP), which included a scope of work for supplemental investigation. The supplemental investigation consisted of installation of additional groundwater monitoring wells, water level measurements and, sampling and analysis of selected existing wells. The purpose of the supplemental investigation was to further define the vertical and lateral extent of the groundwater contaminant plumes.

The EPA-approved OU1 RDWP also included, at SLI's request, a design for an enhanced gas management system. The enhancements included expanding the existing gas management system so that landfill gas was collected more aggressively. Two phases of enhancing the gas management system were implemented and completed between September 1995 and December 1996. In conjunction with SLI's gas management system enhancements, certain drainage improvements were performed that facilitated drainage of stormwater runoff from the surface of the landfills as well as increased the caps' resistance to rainfall infiltration.

The groundwater remediation system has been in operation since 2000 (13+ years), the cap system has been in place since 1987 (26 years) and the SLI gas management enhancement system has been in operation since 1996 (17 years). Together with the OU1 RA, these remedial activities with respect to the SLI LFs have reduced the continued degradation of groundwater and prevented contaminants associated with OU1 from migrating toward existing municipal drinking water wells.

OU3: Contaminated Soil and Groundwater Associated with Former BOC Gases Facility

A BOC Gases facility, now the responsibility of Linde, Inc., (Linde) operated on River Road, upgradient of the SLI LFs. It is within the Cinnaminson Groundwater Contamination Site. In 2008, EPA and Linde, Inc., entered into an Administrative Order on Consent (OU3 AOC) for the performance of an RI/FS to address soil and groundwater contamination that is located on or migrating from the former BOC Gases facility. The work plan is being finalized and the field work for the RI is expected to commence in the summer 2014.

In conjunction with the RI/FS being implemented by Linde as part of OU3, EPA determined the need to perform a vapor intrusion (VI) investigation of nearby residential properties. The VI investigation performed by EPA between March 2009 and December 2010 revealed that vapors from VOCs, including TCE and PCE, associated with contaminated groundwater at the Site are also present in sub-slab soil gas and indoor air at several residential properties. Approximately sixty locations were sampled including residences, day care centers and a commercial building.

A removal action was performed by EPA in September 2010 to install vapor mitigation systems in residences known to be impacted. To date, vapor mitigation systems have been installed in three residences. The VI investigation is on-going and there is a potential that other residential/commercial locations overlying the groundwater plume may be impacted by the VOC vapors.

OU4: Area-wide Groundwater Contamination Not Associated with Previously Identified Sources

OU4 is intended to address groundwater contamination within the area-wide Site that has not been delineated as part of OU1 and OU3 (former BOC Gases facility). EPA is identifying and addressing data gaps in the delineation of groundwater contamination through an OU4 RI/FS. Fieldwork for the OU4 RI is expected to commence in the fall 2014.

HIGHLIGHTS OF COMMUNITY PARTICIPATION

On April 30, 2014, EPA released the Updated Focused Feasibility Study, the Proposed Plan, and supporting documentation for the remedy for comment. These documents were made available to the public in the administrative record repositories maintained at the EPA Region 2 office (290 Broadway, New York, New York 10007) and the Cinnaminson Public Library (1619 Riverton Road, Cinnaminson, New Jersey). EPA published a notice of availability involving the above-referenced documents in the *Courier Post* newspaper on April 30, 2014. The public comment period was held from April 30, 2014 to May 29, 2014.

On May 12, 2014, EPA held a public meeting at the Cinnaminson Township Community Center, 1621 River Road, Cinnaminson Township, New Jersey, to inform local officials and interested citizens about the Superfund process, to discuss the findings of the

RI/FS, to present the proposed remedial alternative for the Site, and to respond to questions and comments from area residents and other attendees. Comments made at the public meeting, as well as the written comments were generally supportive of EPA's proposed remedy.

Responses to the comments received at the public meeting and in writing during the public comment period are included in the Responsiveness Summary section of this ROD (see Appendix V).

SCOPE AND ROLE OF OPERABLE UNIT

EPA is addressing the cleanup of the Site in four OUs. This is the second of the four planned OUs.

This ROD for OU2 addresses the adequacy of the NJDEP closure of the SLI LFs through the completed caps and installed landfill gas mitigation systems.

OU1 addresses groundwater contamination for which a major source is the SLI LFs. The groundwater remedy for OU1 was described in the September 1990 OU1 ROD.

OU3 addresses soil and groundwater contamination at the former BOC Gases facility being investigated by Linde (a successor to BOC Gases) under the OU3 AOC entered into with EPA in 2008. Upon completion of the OU3 RI/FS, an OU3 ROD will be issued documenting the selection of an OU3 RA.

OU4 addresses groundwater contamination that has migrated beyond the identified source areas. EPA is performing an OU4 RI/FS that will integrate information gathered as part of the three other OUs, as well as gather additional information through supplemental field investigations. Upon completion of the OU4 RI/FS, an OU4 ROD will be issued documenting the selection of an OU4 remedy.

Completion of the work associated with the four OUs will result in a comprehensive RA that addresses area-wide groundwater contamination and is necessary to mitigate the identified unacceptable risks and to protect the public health, welfare and the environment from actual or threatened releases of contaminants into the environment.

SITE CHARACTERISTICS

A component of the 400-acre area-wide groundwater contamination Site is the two unlined SLI LFs operated by SLI and the subject of OU2. The SLI LFs are also known as the northwest and southeast landfills. The SLI LFs are considered a major source of groundwater contamination at the Site.

The SLI LFs are bounded by undeveloped land, a light industrial area and Taylors Lane to the north, Union Landing Road to the south, a wooded and light industrial area to the east and a heavy industrial area to the west. The surrounding area consists of a mixture of retail, residential and light-to-heavy industrial properties.

The Site lies within the bounds of the Delaware River flood plain and, therefore, the topography is very flat. The natural land surface elevation rises from 20 feet above mean sea level (MSL) along River Road to about 80 feet above MSL at Union Landing Road. The SLI LFs are an area of significant relief within the Site. Most of the Site area lies between 30 and 60 feet above MSL.

The geology of the Site is generally a series of inter-bedded sands, clayey sands, and clays overlying bedrock. These strata dip and thicken southeastwards and collectively form the Potomac-Raritan-Magothy Formation (PRM) Aquifer.

There are three hydrogeologic units: the Wissahickon Formation (bedrock); the PRM Aquifer; and the Pennsauken Aquifer. The Pennsauken Aquifer directly overlies bedrock in the northern portion of the Site, just north of the closed landfills, and creates a groundwater mound coincident with an underlying bedrock high. Groundwater flow is radial (i.e. to the north, south, east and west) from the top of this mound. In the extreme northwestern corner of the Site where the slope of the bedrock high flattens out and the Pennsauken Aquifer directly overlies the PRM, groundwater flows to the east around the bedrock high and continues southeast in the PRM. South of the mound, groundwater flow direction is south-southeast, away from the Delaware River. Depth to groundwater near the SLI LFs and downgradient is 40 to 50 feet below ground surface or MSL.

Historically, groundwater flow was towards the Delaware River. However, that changed due to regional pumping. Water levels subsequently increased regionally due to reduction in water supply pumping (related to greater use of Delaware River for water supply).

Groundwater pumping was eliminated at the municipal supply wells nearest the Site, the New Jersey American Water Company (NJAWC) New Albany Road public supply wells, after approximately 2005-2006. This resulted in a rise in groundwater level and a flattening of hydraulic gradients near the Site. With no pumping at the New Albany Road wells and pumping continuing at other NJAWC wells to the south, flow directions (including contaminant transport) have shifted more to the south/southeast away from the Delaware River.

CURRENT AND POTENTIAL FUTURE SITE AND RESOURCE USES

Groundwater Uses: Groundwater underlying the Site is considered by New Jersey to be Class GW-2, a source of potable water. However, residents in the area of the Site are currently using a public water supply, which is sampled to assure all drinking water standards are met for VOCs, and other contaminants. The public water supplier pumps water from 17 municipal wells that tap the PRM Aquifer system. This municipal system includes water treatment systems and regular testing, as required by the Clean Water Act and state regulations. These municipal wells are downgradient of the Site and there is a potential that these wells could be impacted by chemicals in the groundwater plume from the Site. If groundwater contaminated from the Site were to be used as drinking water in the future, elevated human health risks could exist.

Land Uses: Currently, land use in the immediate area of the Site consists of residential properties, farmland, and small to large industrial properties. The groundwater extraction and treatment system for the Site, the OU1 RA remedy, is currently located on the SLI LFs. It is anticipated that any future use of the SLI LFs would be commercial or industrial; there are limited passive uses that can be installed on top of closed landfills, such as solar panels for electricity generation.

SITE RISKS

Human Health Risk Assessment:

As part of the OU1 RI/FS, EPA conducted a baseline human health risk assessment (BHHRA) to estimate the current and future effects of contaminants on human health and the environment. A BHHRA is an analysis of the potential adverse human health effects of releases of hazardous substances from a site in the absence of any actions or controls to mitigate such releases, under current and future land and groundwater uses.

A four-step human health risk assessment process was used for assessing site-related cancer risks and non-cancer health hazards for reasonable maximum exposure scenarios. The four-step process is comprised of: hazard identification of chemicals of potential concern (COPCs); exposure assessment; toxicity assessment; and risk characterization.
Hazard Identification: In this step, the COPCs at the Site in various media (*i.e.*, soil, groundwater, surface water, and air) are identified based on such factors as toxicity, frequency of occurrence, and fate and transport of the contaminants in the environment, concentrations of the contaminants in specific media, mobility, persistence, and bioaccumulation.

Exposure Assessment: In this step, the different exposure pathways through which people might be exposed to the contaminants identified in the previous step are evaluated. Examples of exposure pathways include incidental ingestion of and dermal contact with contaminated soil and ingestion of and dermal contact with contaminated groundwater. Factors relating to the exposure assessment include, but are not limited to, the concentrations in specific media that people might be exposed to and the frequency and duration of that exposure. Using these factors, a "reasonable maximum exposure" scenario, which portrays the highest level of human exposure that could reasonably be expected to occur, is calculated.

Toxicity Assessment: In this step, the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure and severity of adverse effects are determined. Potential health effects are chemical-specific and may include the risk of developing cancer over a lifetime or other non-cancer health hazards, such as changes in the normal functions of organs within the body (*e.g.*, changes in the effectiveness of the immune system). Some chemicals are capable of causing both cancer and non-cancer health hazards.

Risk Characterization: This step summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of Site risks for all COPCs. Exposures are evaluated based on the potential risk of developing cancer and the potential for non-cancer health hazards. The likelihood of an individual developing cancer is expressed as a probability. For example, a 10^{-4} cancer risk means a "one in ten thousand excess cancer risk;" or one additional cancer may be seen in a population of 10,000 people as a result of exposure to Site contaminants under the conditions identified in the Exposure

Assessment. Current Superfund regulations for exposures identify the range for determining whether remedial action is necessary as an individual excess lifetime cancer risk of 10^{-4} to 10^{-6}, corresponding to a one in ten thousand to a one in a million excess cancer risk. For non-cancer health effects, a "hazard index" (HI) is calculated. The key concept for a non-cancer HI is that a "threshold" (measured as an HI of less than or equal to 1) exists below which non-cancer health hazards are not expected to occur. The goal of protection is 10^{-6} for cancer risk and an HI of 1 for a non-cancer health hazard. Chemicals that exceed a 10^{-4} cancer risk or an HI of 1 are typically those that will require remedial action at the Site.

COPCs were selected by comparing the maximum detected concentration of each analyte in air, sediment, surface water and groundwater with available risk-based screening values for potentially complete pathways. The primary chemicals identified as COPCs and requiring further evaluation in the baseline risk assessment were: benzene, PCE, TCE, vinyl chloride and arsenic.

The updated exposure assessment in the Focused Feasibility Study identified potential human receptors based on a review of current and reasonably foreseeable future land use at the area of the Site under consideration for OU2, which is the SLI LFs.

Potential human receptors and associated exposure pathways included the following:

- current exposure of children playing in Pompeston Creek, Swede Run, SLI LF impoundments, other nearby industrial facility impoundments, and a nearby farm pond to COPCs via dermal contact and incidental ingestion of sediments;

- current exposure of residents and workers in the area to COPCs via inhalation of VOCs, and

- current or future exposure of residents to COPCs via ingestion of groundwater from the perched and regional aquifers in the plume area.

The toxicity assessment identified potential effects generally associated with exposure to the COPCs. Two types of toxic effects were evaluated for each receptor in the risk assessment, carcinogenic effects and non-carcinogenic effects. Calculated risk estimates for each receptor were compared to EPA's acceptable range of carcinogenic risk of 10^{-6} to 10^{-4}, and EPA's

acceptable non-cancer hazard quotient less than or equal to a target value of one.

The risk characterization combined the exposure and toxicity information to determine estimated risks to the selected exposure groups. The BHHRA concluded that the following scenario had risks exceeding EPA's acceptable cancer or non-cancer target levels.

- The current and future exposure of residents via ingestion of groundwater resulted in significant risks (6×10^{-3}) which requires remedial action. The risk scenario for the ingestion of groundwater was developed by assuming a resident would install a well in the PRM aquifer within the current area of groundwater contamination. The non-cancer Hazard Index for this scenario was 20. See Table 1 for additional details.

This risk scenario is being addressed by both the OU1 RA and the landfill caps already in place for OU2. The landfill caps are sufficient to prevent infiltration of rainwater that could contribute to groundwater contamination and thus, the aforementioned risk.

The BHHRA concluded that the following scenarios did not have risks exceeding EPA's acceptable cancer or non-cancer target levels.

- Risks associated with the inhalation of VOCs by nearby workers or residents as a result of chemical releases from the SLI LFs were evaluated. The results of this assessment revealed that no adverse carcinogenic or non-carcinogenic health effects are likely to occur as a result of exposure to inhalation of VOCs. The cancer risks associated with the inhalation of VOCs by nearby workers as a result of chemical releases from the SLI LFs was 1×10^{-11} and the non-cancer HI was 5×10^{-7}. The cancer risks associated with the inhalation of VOCs by nearby residents as a result of chemical releases from the SLI LFs was 7×10^{-11} and the non-cancer HI was 7×10^{-7}. See Tables 2 and 3 for additional details.

- Risks associated with the potential that chemicals detected in surface water and sediment were likely transported by surface water run-off or leachate from the SLI LFs considered the possibility of trespassing children who might play in surface water of the SLI LF basins. Although

considered unlikely, this exposure scenario was evaluated and the results of this assessment revealed that no adverse carcinogenic or non-carcinogenic health effects are likely to occur as a result of direct contact to surface waters at or near the SLI LFs. The cancer risks associated with the potential that chemicals detected in surface water and sediment were likely transported by surface water run-off or leachate from the SLI LFs considered the possibility of trespassing children who might play in surface water of the SLI LF basins. The cancer risk was calculated to be 8×10^{-7} and the non-cancer Hazard Index was 9×10^{-3}. See Table 4 for additional details.

Ecological Risk Assessment:

A Screening Level Ecological Risk Assessment (SLERA) was also performed that describes existing habitats and ecological receptor species that have been noted or are expected to be present on the Site, and evaluates the potential risks associated with the exposure of the biota to surface water, sediment and surface soil COPCs. The EPA uses an 8-step process, including numerous scientific/management decision points, for evaluating potential risks to potential receptors.

The SLERA is intended to allow a rapid determination as to whether the Site either poses no ecological risks, or to identify which contaminants and exposure pathways require further evaluation. Using conservative assumptions about potential ecological risks, it is determined that if no risks are estimated during the screening level evaluation, the ecological risk assessment process stops with the SLERA. If ecological risks are indicated by the SLERA, EPA may proceed to a more comprehensive baseline ecological risk assessment (BERA) to further refine and better evaluate the site-specific ecological risk.

The potential impacts associated with COPCs were assessed for nonhuman exposure at the Site. There are no endangered species or critical habitats located at the Site. It was determined that environmental risks were not significant.

Previous Non-CERCLA Response Actions at OU2:

The original closure plan developed and implemented pursuant to the NJDEP ACO with SLI was approved by NJDEP and included capping of the SLI LFs as well as installation of a landfill gas collection and venting system, and the initiation of a groundwater monitoring program.

Construction of the closure caps for the SLI LFs began in 1985 and was completed in 1987 and NJDEP gave their acceptance of the final cap construction in 1989.

The capping requirements outlined by NJDEP for the original closure plan included:

- Six inches of topsoil overlying 18 inches of a low permeability soil having a hydraulic conductivity no greater than 1 x 10^{-5} centimeters per second (cm/sec).

The as-built drawings provided to NJDEP in the report entitled: *Certification Report and As-Built Documentation for Site Closure*, dated April 1988, documenting cap construction indicated that the actual closure cap system consisted of:

- Six inches of topsoil, overlying 6 inches of sand overlying at least 18 inches of low permeability soil (an average of 20.4 inches was placed on the northwest landfill and 22.8 inches was placed on the southeast landfill). The average hydraulic permeability is 4.11 x 10^{-8} cm/sec.

The OU1 ROD issued by EPA in 1990 recognized that the SLI LFs had been previously closed and capped with the approval of NJDEP. The OU1 ROD deferred evaluation of a source control remedy (i.e. capping) until after the construction and operation of the groundwater remedy to address the migration of contaminated groundwater from the SLI LFs.

The EPA approved OU1 RD work plan included SLI's proposed design for an enhanced landfill gas management system. Two phases of enhancing the gas management system were implemented and completed between September 1995 and December 1996.

The first phase of the SLI gas management system enhancements was performed by SCH from September 1995 through February 1996. This phase consisted of:

- Installation of thirty-four gas extraction wells;

- Installation of a portion of a new main header and lateral piping network;

- Installation of four condensate pump stations and drains;

- Construction of concrete foundations for the new system components; and

- Installation of a new enclosed gas flare.

The second phase of the SLI gas management system enhancements was performed by SCH from May 1996 through December 1996. This phase included:

- Completion of the header and lateral piping network;

- Installation of ten gas monitoring probes;

- Completion of mechanical and electrical service for the new enclosed flare station and condensate pump stations; and

- Connection to the existing gas management system.

Since the installation of SLI's enhancements to the active landfill gas management system, four probes have been regularly monitored for evidence of landfill gas migration. None of the measured levels of landfill gas exceeded allowable limits. The gas monitoring data show that the enhanced active landfill gas management system has controlled and further reduced the migration of landfill gas as well as effectively extracting and treating SLI LFs gas from the SLI LFs.

In conjunction with the active gas management system enhancements, certain drainage improvements were performed that facilitated drainage of stormwater runoff from the surface of the landfills as well as increased the caps' resistance to rainfall infiltration. These improvements consisted of: culverts, rip-rap lined swales, rip-rap or gabion lined downchutes and aprons, rock check dams and swales lined with erosion control matting.

The discharge of stormwater from the SLI LFs is governed by a New Jersey Pollution Discharge Elimination System (NJPDES) General Permit. An associated Stormwater Pollution Prevention Plan (SPPP) that requires annual implementation and inspection re-certifications indicates that the SLI LFs are in compliance with the substantive requirements of the SPPP and NJPDES permit.

The SLI LF caps comply with all federal and any more stringent state "applicable or relevant and appropriate requirements" (ARARs) that are applicable to the management of the SLI LF wastes. The primary ARARs that the SLI LF caps meet are the waste

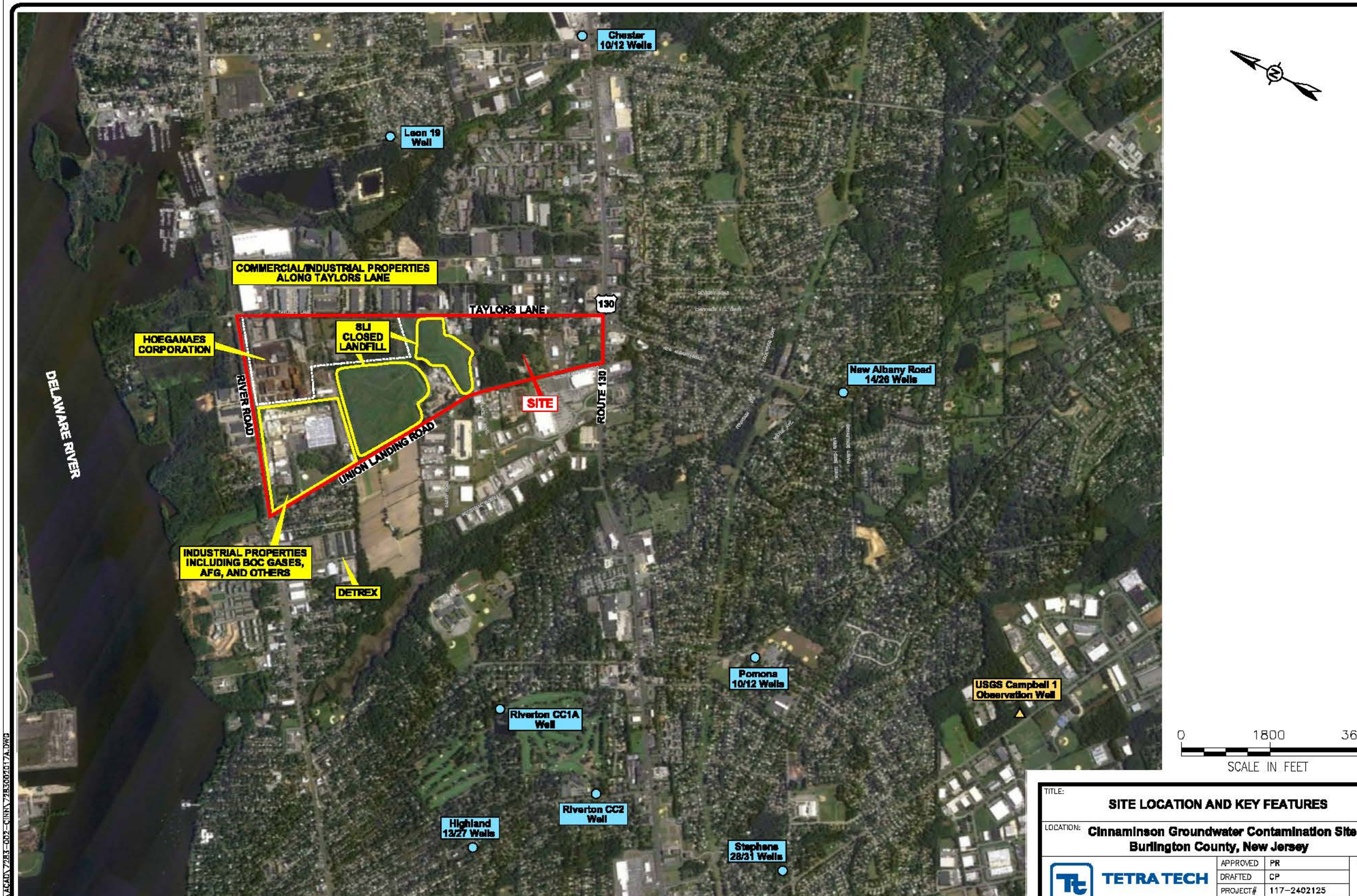
management and disposal requirements promulgated under RCRA including 40 CFR Part 264 as well as the State of New Jersey closure and post-closure requirements under N.J.A.C. 7:26. In addition, in accordance with N.J.A.C. 7:26-2A.9(c)4 and N.J.A.C. 7:26, SCH is in the process of obtaining a deed notice for the SLI LFs. The deed notice shall provide that any future disruption of the closed landfill shall require prior approval from the NJDEP in accordance with N.J.A.C. 7:26-2A.8(j)and requires biennial monitoring to ensure the cap remains protective.

DOCUMENTATION OF SIGNIFICANT CHANGES

The Proposed Plan for the Site was released for public comment on April 30, 2014. The comment period closed on May 29, 2014. The Proposed Plan identified No Action as the preferred remedy to address contamination at the Site. Upon review of all comments submitted, EPA determined that no significant changes to the No Action Remedy, as it was originally identified in the Proposed Plan were necessary or appropriate.

APPENDIX I

FIGURES



TITLE:

SITE LOCATION AND KEY FEATURES

LOCATION: **Cinnaminson Groundwater Contamination Site**
Burlington County, New Jersey

TETRA TECH

APPROVED	PR	FIGURE
DRAFTED	CP	1
PROJECT#	117-2402125	
DATE	3-18-14	

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APPENDIX II

TABLES

TABLE 1

HYPOTHETICAL EXPOSURE AND RISK ASSOCIATED WITH CONSUMPTION OF GROUNDWATER FROM THE PRM AQUIFER IN THE CINNAMINSON GROUNDWATER CONTAMINATION STUDY AREA

a. carcinogens

Chemical	CONCENTRATION (ug/l)		ESTIMATED CHRONIC DAILY INTAKE (CDI) (mg/kg/day)		CANCER POTENCY FACTOR (mg/kg/day)-1	EXCESS UPPER BOUND LIFETIME CANCER RISK	
	Geometric Mean	Maximum	Average	Plausible Maximum		Average	Plausible Maximum
1,1-Dichloroethane	6.70E+00	4.40E+02	1.55E-05	5.03E-03	9.1E-02	1E-06	5E-04
1,2-Dichloroethane	5.70E+00	2.30E+02	1.32E-05	2.63E-03	9.1E-02	1E-06	2E-04
1,2-Dichloropropane	3.00E+00	3.50E+01	6.92E-06	4.00E-04	6.8E-02	5E-07	3E-05
1,4-Dichlorobenzene	6.10E+00	3.80E+01	1.41E-05	4.34E-04	2.4E-02	3E-07	1E-05
1,1,2-Trichloroethane	2.60E+00	3.00E+00	6.00E-06	3.43E-05	5.7E-02	3E-07	2E-06
Arsenic	7.00E+00	1.10E+02	1.62E-05	1.26E-03	2.0E+00	3E-05	3E-03
Benzene	6.20E+00	3.10E+02	1.43E-05	3.54E-03	2.9E-02	4E-07	1E-04
bis(2-Ethylhexyl)phthalate	7.10E+00	4.00E+02	1.64E-05	4.57E-03	1.4E-02	2E-07	6E-05
Chloroform	3.80E+00	2.10E+03	8.77E-06	2.40E-02	6.1E-03	5E-08	1E-04
Tetrachloroethene	3.90E+00	1.10E+02	9.00E-06	1.26E-03	5.1E-02	5E-07	6E-05
Trichloroethene	4.30E+00	3.80E+02	9.92E-06	4.34E-03	1.1E-02	1E-07	5E-05
Vinyl Chloride	5.80E+00	8.50E+01	1.34E-05	9.71E-04	2.3E+00	3E-05	2E-03
TOTAL:						7E-05	6E-03

NR = The geometric mean was not reported (NR), because the geometric mean was greater than or equal to the maximum detected value.

TABLE 1 (CONTINUED)

HYPOTHETICAL EXPOSURE AND RISK ASSOCIATED WITH CONSUMPTION OF GROUNDWATER FROM THE PRM AQUIFER IN THE CINNAMINSON GROUNDWATER CONTAMINATION STUDY AREA

b. noncarcinogens

Chemical	CONCENTRATION (ug/l)		ESTIMATED CHRONIC DAILY INTAKE (CDI) (mg/kg/day)		REFERENCE DOSE (mg/kg/day)	CDI:RfD RATIO	
	Geometric Mean	Maximum	Average	Plausible Maximum		Average	Plausible Maximum
1,2-Dichlorobenzene	5.20E+00	2.10E+01	1.00E-04	6.00E-04	9.0E-02	1E-03	7E-03
1,4-Dichlorobenzene	6.10E+00	3.80E+01	1.17E-04	1.09E-03	1.0E-01	1E-03	1E-02
1,1-Dichloroethane	6.70E+00	4.40E+02	1.29E-04	1.26E-02	1.0E-01	1E-03	1E-01
1,2-Dichloroethene (total)	7.40E+00	2.60E+02	1.42E-04	7.43E-03	1.0E-02	1E-02	7E-01
1,1,1-Trichloroethane	2.60E+00	2.30E+01	5.00E-05	6.57E-04	9.0E-02	6E-04	7E-03
1,1,2-Trichloroethane	2.60E+00	3.00E+00	5.00E-05	8.57E-05	4.0E-03	1E-02	2E-02
1,2,4-Trichlorobenzene	2.40E+00	2.40E+00	4.62E-05	6.86E-05	2.0E-02	2E-03	3E-03
Acetone	6.70E+00	2.90E+03	1.29E-04	8.29E-02	1.0E-01	1E-03	8E-01
Antimony	3.47E+01	5.40E+01	6.67E-04	1.54E-03	4.0E-04	2E+00	4E+00
Beryllium	2.70E+00	7.00E+00	5.19E-05	2.00E-04	5.0E-03	1E-02	4E-02
Benzoic acid	2.58E+01	6.50E+01	4.96E-04	1.86E-03	4.0E+00	1E-04	5E-04
bis(2-Ethylhexyl)phthalate	7.10E+00	4.00E+02	1.37E-04	1.14E-02	2.0E-02	7E-03	6E-01
Butylbenzylphthalate	5.40E+00	1.40E+01	1.04E-04	4.00E-04	2.0E-01	5E-04	2E-03
Cadmium	3.20E+00	1.38E+01 (a)	6.15E-05	3.94E-04	5.0E-04	1E-01	8E-01
Chlorobenzene	5.70E+00	8.40E+01	1.10E-04	2.40E-03	3.0E-02	4E-03	8E-02
Chloroform	3.80E+00	2.10E+03	7.31E-05	6.00E-02	1.0E-02	7E-03	6E+00
Cyanide	5.20E+00	3.00E+01	1.00E-04	8.57E-04	2.0E-02	5E-03	4E-02
Diethylphthalate	1.00E+00	1.00E+00	1.92E-05	2.86E-05	8.0E-01	2E-05	4E-05
Di-n-butyl Phthalate	NR	2.00E+00	NR	5.71E-05	1.0E-01	NR	6E-04
Ethylbenzene	3.90E+00	4.30E+02	7.50E-05	1.23E-02	1.0E-01	8E-04	1E-01
Manganese	5.42E+02	1.43E+04	1.04E-02	4.09E-01	2.0E-01	5E-02	2E+00
Noncarcinogenic PAHs	4.90E+00	2.00E+01	9.42E-05	5.71E-04	4.0E-01	2E-04	1E-03
Selenium	2.80E+00	5.00E+00	5.39E-05	1.43E-04	3.0E-03	2E-02	5E-02
Silver	5.10E+00	1.87E+01	9.81E-05	5.34E-04	3.0E-03	3E-02	2E-01
Tetrachloroethene	3.90E+00	1.10E+02	7.50E-05	3.14E-03	1.0E-02	8E-03	3E-01
Total Xylenes	3.90E+00	1.10E+03	7.50E-05	3.14E-02	2.0E+00	4E-05	2E-02
Trichloroethene	4.30E+00	3.80E+02	8.27E-05	1.09E-02	7.3E-03	1E-02	1E+00
HAZARD INDEX:						>1 (2)	>1 (20)

NR = The geometric mean was not reported (NR), because the geometric mean was greater than or equal to the maximum detected value.

a) Dissolved concentration was used to be conservative because it exceeded the total concentration.

TABLE 2

ESTIMATED EXPOSURE AND RISK ASSOCIATED WITH INHALATION OF VOLATILES BY ON-SITE WORKERS

a. carcinogens

Compound	CONCENTRATION (ng/m3) Geometric Mean	CONCENTRATION (ng/m3) Maximum	CHRONIC DAILY INTAKE (CDI) (mg/kg/day) Average	CHRONIC DAILY INTAKE (CDI) (mg/kg/day) Plausible Maximum	CANCER POTENCY FACTOR (mg/kg/day)-1	EXCESS UPPER BOUND LIFETIME CANCER RISK Average	EXCESS UPPER BOUND LIFETIME CANCER RISK Plausible Maximum
Methylene chloride	1.11E-03	1.60E-02	5.43E-12	8.96E-10	1.4E-02	8E-14	1E-11
Tetrachloroethene	9.64E-04	7.60E-03	4.72E-12	4.25E-10	3.3E-03	2E-14	1E-12
TOTAL:						9E-14	1E-11

b. noncarcinogens

Compound	CONCENTRATION (ng/m3) Geometric Mean	CONCENTRATION (ng/m3) Maximum	CHRONIC DAILY INTAKE (CDI) (mg/kg/day) Average	CHRONIC DAILY INTAKE (CDI) (mg/kg/day) Plausible Maximum	REFERENCE DOSE (mg/kg/day)	CDI:RfD RATIO Average	CDI:RfD RATIO Plausible Maximum
4-Methyl-2-pentanone	NC	1.08E-02	--	2.11E-09	2.0E-02	--	1E-07
Chlorobenzene	1.08E-03	1.01E-02	7.41E-11	1.98E-09	5.0E-03	1E-08	4E-07
Styrene	1.40E-03	2.80E-02	9.59E-11	5.48E-09	NA	--	--
HAZARD INDEX:						1E-08	5E-07

NC = Not calculated; a geometric mean was not calculated as the compound was detected at only one station.

NA = Not available; EPA has not developed an RfD for this chemical.

TABLE 3

ESTIMATED EXPOSURE AND RISK ASSOCIATED WITH INHALATION OF VOLATILES BY NEARBY RESIDENTS

a. carcinogens

Compound	CONCENTRATION (ng/m3)		CHRONIC DAILY INTAKE (CDI) (mg/kg/day)		CANCER POTENCY FACTOR (mg/kg/day)-1	EXCESS UPPER BOUND LIFETIME CANCER RISK	
	Geometric Mean	Maximum	Average	Plausible Maximum		Average	Plausible Maximum
Methylene chloride	1.11E-03	1.60E-02	2.06E-10	4.58E-09	1.4E-02	3E-12	6E-11
Tetrachloroethene	9.64E-04	7.60E-03	1.79E-10	2.17E-09	3.3E-03	6E-13	7E-12
TOTAL:						3E-12	7E-11

b. noncarcinogens

Compound	CONCENTRATION (ng/m3)		CHRONIC DAILY INTAKE (CDI) (mg/kg/day)		REFERENCE DOSE (mg/kg/day)	CDI:RfD RATIO	
	Geometric Mean	Maximum	Average	Plausible Maximum		Average	Plausible Maximum
4-Methyl-2-pentanone	NC	1.08E-02	--	3.08E-09	2.0E-02	--	2E-07
Chlorobenzene	1.08E-03	1.01E-02	2.01E-10	2.89E-09	5.0E-03	4E-08	6E-07
Styrene	1.40E-03	2.80E-02	2.60E-10	8.00E-09	NA	--	--
HAZARD INDEX:						4E-08	7E-07

NC = Not calculated; a geometric mean was not calculated as the compound was detected at only one station.

NA = Not available; EPA has not developed an RfD for this chemical.

TABLE 4

ESTIMATED EXPOSURE AND RISK TO CHILDREN ASSOCIATED WITH DIRECT CONTACT WITH SEDIMENT -- SLI LANDFILL BASINS

a. carcinogens

Chemical	CONCENTRATION (ug/kg) Geometric Mean	CONCENTRATION (ug/kg) Maximum Detected	ESTIMATED CHRONIC DAILY INTAKE (CDI) (mg/kg/day) INCIDENTAL INGESTION Average	INCIDENTAL INGESTION Plausible Maximum	DERMAL ABSORPTION Average	DERMAL ABSORPTION Plausible Maximum	CANCER POTENCY FACTOR (mg/kg/day)-1	EXCESS UPPER BOUND LIFETIME CANCER RISK Average	EXCESS UPPER BOUND LIFETIME CANCER RISK Plausible Maximum
Arsenic	3.50E+03	1.10E+04	2.33E-08	4.69E-07	NR	NR	1.75E+00	4E-08	8E-07
Bis(2-ethylhexyl)phthalate	3.25E+02	3.40E+02	2.17E-09	1.45E-08	2.53E-09	2.17E-08	1.40E-02	7E-11	5E-10
TOTAL:								4E-08	8E-07

b. noncarcinogens

Chemical	CONCENTRATION (ug/kg) Geometric Mean	CONCENTRATION (ug/kg) Maximum Detected	ESTIMATED CHRONIC DAILY INTAKE (CDI) (mg/kg/day) INCIDENTAL INGESTION Average	INCIDENTAL INGESTION Plausible Maximum	DERMAL ABSORPTION Average	DERMAL ABSORPTION Plausible Maximum	REFERENCE DOSE (mg/kg/day)	CDI:RfD RATIO Average	CDI:RfD RATIO Plausible Maximum
Aluminum	2.16E+05	8.79E+06	1.01E-05	2.62E-03	NR	NR	NA	--	--
Arsenic	3.50E+03	1.10E+04	1.63E-07	3.28E-06	NR	NR	1.00E-03	2E-04	3E-03
Barium	9.70E+04	9.40E+04	4.52E-06	2.81E-05	NR	NR	5.00E-02	9E-05	6E-04
Chromium	7.50E+03	2.80E+04	3.50E-07	8.36E-06	NR	NR	5.00E-03	7E-05	2E-03
Cobalt	1.90E+04	1.50E+04	8.86E-07	4.48E-06	NR	NR	NA	--	--
Di-n-butyl phthalate	7.00E+01	9.80E+02	3.26E-09	2.92E-07	3.82E-09	4.39E-07	1.00E-01	7E-08	7E-06
Manganese	1.77E+05	8.23E+05	8.25E-06	2.46E-04	NR	NR	2.00E-01	4E-05	1E-03
Nickel	1.90E+04	1.80E+04	8.86E-07	5.37E-06	NR	NR	2.00E-02	4E-05	3E-04
Vanadium	3.30E+04	4.30E+04	1.54E-06	1.28E-05	NR	NR	7.00E-03	2E-04	2E-03
HAZARD INDEX:								6E-04	9E-03

NC = Not calculated; geometric mean is not calculated since there is only one sample.
NR = Not relevant; dermal absorption of inorganics is considered negligible.
NA = Not available; EPA has not yet developed an RfD or cancer potency factor for this chemical.

APPENDIX III

ADMINISTRATIVE RECORD

INDEX

ADMINISTRATIVE RECORD INDEX OF DOCUMENTS

DRAFT

06/03/2014 **REGION ID: 02**

Site Name: CINNAMINSON TOWNSHIP (BLOCK 702) GROUNDWATER CONTAMINATION
CERCLIS ID: NJD980785638
OUID: 02
SSID: 02F7
Action:

DocID:	Doc Date:	Title:	Image Count:	Doc Type:	Beginning Bates:	Ending Bates:	Addressee Name:	Addressee Organization:	Author Name:	Author Organization:
706465	06/03/2014	ADMINISTRATIVE RECORD INDEX FOR OU2 FOR THE CINNAMINSON TOWNSHIP (BLOCK 702) GROUNDWATER CONTAMINATION SITE	1	[INDEX]			[]	[]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]
705975	03/17/2014	UPDATED FOCUSED FEASIBILITY STUDY ON SOURCE CONTROL ALTERNATIVES FOR THE SLI LANDFILLS - OU2 FOR THE CINNAMINSON TOWNSHIP (BLOCK 702) GROUNDWATER CONTAMINATION SITE	47	[REPORT]	R2-0000001	R2-0000047	[,]	[SC HOLDINGS, INC.]	[,]	[TETRA TECH, INC.]
705976	03/17/2014	UPDATED FOCUSED FEASIBILITY STUDY ON SOURCE CONTROL ALTERNATIVES FOR THE SLI LANDFILLS - OU2 - APPENDICES A THROUGH K FOR THE CINNAMINSON TOWNSHIP (BLOCK 702) GROUNDWATER CONTAMINATION SITE	691	[REPORT]	R2-0000048	R2-0000738	[,]	[SC HOLDINGS, INC.]	[,]	[TETRA TECH, INC.]
178422	04/29/2014	PROPOSED PLAN FOR OU2 FOR THE CINNAMINSON TOWNSHIP (BLOCK 702) GROUNDWATER CONTAMINATION SITE	13	[PLAN]	R2-0000739	R2-0000751	[]	[]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]

260279

APPENDIX IV

STATE LETTER

State of New Jersey

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BOB MARTIN
Commissioner

July 25, 2014

Mr. Walter Mugdan, Director
Emergency and Remedial Response Division
U.S. Environmental Protection Agency Region II
290 Broadway
New York, NY 10007-1866

Re: Cinnaminson Ground Water Contamination Superfund Site
Record of Decision for Operable Unit 2
Townships of Cinnaminson and Delran, Burlington County

Dear Mr. Mugdan:

The New Jersey Department of Environmental Protection (Department) has completed its review of the Record of Decision (ROD) for Operable Unit 2 (OU2), which addresses the landfill cap and mitigation system, prepared by the U.S. Environmental Protection Agency (EPA) Region II. The Department concurs with the selected remedy, No Action.

No action was chosen because it was determined that the original closure plan for the landfills, which was implemented in 1987 and consisted of capping the landfills and installation of a landfill gas collection system and venting system, is in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan. The selected remedy is protective of human health and the environment and complies with Federal and State requirements that are applicable or relevant and appropriate to the remedial action.

DEP appreciates the opportunity to participate in the decision making process to select an appropriate remedy. If you have any questions, please feel free to contact me.

Sincerely,

Mark J. Pedersen
Assistant Commissioner
Site Remediation Program

APPENDIX V

RESPONSIVENESS SUMMARY

RESPONSIVENESS SUMMARY

Cinnaminson Groundwater Contamination Superfund Site – Operable Unit 2

INTRODUCTION

As required by Superfund policy, this Responsiveness Summary provides a summary of the citizens' comments and concerns regarding the Proposed Plan for the Cinnaminson Groundwater Contamination Superfund Site (Site), and the U.S. Environmental Protection Agency's (EPA's) responses to those comments and concerns. At the May 12, 2014 Public Meeting, EPA staff presented to the public EPA's preferred remedial action alternative to address the landfills that comprise a portion of the Site. All comments summarized in this document have been considered in EPA's final decision for selection of a remedial alternative for the Operable Unit 2 (OU2) remedy.

This Responsiveness Summary is divided into the following sections:

I. BACKGROUND ON COMMUNITY INVOLVEMENT AND CONCERNS: This section provides the history of community involvement and concerns regarding the Site.

II. COMPREHENSIVE SUMMARY OF MAJOR QUESTIONS, COMMENTS, CONCERNS, AND RESPONSES: This section includes summaries of oral comments received by EPA at the May 12, 2014 public meeting, EPA's responses to these comments, as well as responses to written comments received during the public comment period.

The Responsiveness Summary includes attachments which document public participation in the remedy selection process for the Site. The attachments are as follows:

- Attachment A – April 2014 Proposed Plan for the Cinnaminson Groundwater Contamination Site;
- Attachment B – Public Notice published in Courier Post;
- Attachment C – May 12, 2014 Public Meeting Attendance Sheet, and Transcript of the May 12, 2014 Public Meeting; and
- Attachment D – Copies of public comments received.

I. BACKGROUND ON COMMUNITY INVOLVEMENT AND CONCERNS

EPA's Proposed Plan for the OU2 remedial action was released to the public on April 30, 2014. A copy of the Proposed Plan, and Final Updated Focused Feasibility Study for landfill capping remediation alternatives and other documents which comprise the administrative record file were made available to the public in the information repository located at the Cinnaminson Public Library as well as the EPA Region 2's Record Center. A public notice was published in The Courier Post, a southern New Jersey newspaper, on April 30, 2014, advising the public of the availability of the Proposed Plan. This notice also announced the opening of a 30-day public comment period, from April 30, 2014 to May 29, 2014, and invited the interested parties to attend an upcoming public meeting. This public meeting, during which EPA presented the preferred alternative for the OU2 remedy, answered questions regarding the Cinnaminson Groundwater Contamination Site, and accepted verbal comments regarding the Proposed Plan, was held on May 12, 2014 at the Cinnaminson Community Center, 1621 Riverton Road, Cinnaminson, New Jersey, 08077.

COMPREHENSIVE SUMMARY OF MAJOR QUESTIONS, COMMENTS, CONCERNS, AND RESPONSES

Part 1: Verbal Comments

Comment #1: A resident who lives on James Avenue wanted to understand how citizen comments that disagree with EPA's Proposed Plan are responded to.

EPA Response: All comments are considered and evaluated by EPA. Responses are provided in the Responsiveness Summary and are part of a permanent record documented in EPA's Record of Decision.

Comment #2: A resident who lives on James Avenue wanted to know how EPA became aware of residences that required vapor mitigation systems.

EPA Response: EPA performed a vapor intrusion investigation at approximately 60 locations including residences, day care centers and a commercial building to evaluate the nature and extent of vapor intrusion. Based on the testing of ambient air, soil gas, and indoor air, EPA determined whether a given location required a mitigation system to address contaminated vapors.

Comment #3: A resident who lives on Union Landing Road wanted to know the two addresses where EPA has installed vapor mitigation systems.

EPA Response: In order to protect personal privacy, EPA is unable to disclose specific address information. However, the two residential areas that have been subject to the vapor intrusion investigation are west of River Road between Inman and Zeisner Streets and a residential neighborhood bounded by Union Landing Road, Industrial Highway, and River Road. The two vapor mitigation systems that have been installed to date are within those investigation areas. A third vapor mitigation system was installed in a residence that was destroyed by fire and

subsequently reconstructed by the homeowner using a subsurface vapor mitigation barrier.

Comment #4: A resident who lives on James Avenue wanted to know who is responsible to pay for the environmental investigation and clean-up.

EPA Response. There are private parties deemed responsible under Superfund law that pay for the investigation and clean-up of the Cinnaminson Groundwater Contamination Site. EPA and the NJDEP provide oversight of the work performed by private parties. EPA's costs to perform such oversight are recoverable from the private parties.

Comment #5: A resident who lives on Hunter Street wanted to know how groundwater contamination potentially impacts fruits and vegetables grown on farms within the Cinnaminson Groundwater Contamination Site.

EPA Response: The main groundwater contaminants of concern at this Site are a class of compounds called volatile organic compounds. These compounds are not taken up in fruits/vegetable such that concentrations of the compounds would pose a human health or environmental threat.

Comment #6: A resident who lives on James Avenue raised a concern about a cancer cluster in the neighborhood due to drinking contaminated groundwater.

EPA Response: The source of drinking water for residents in the Site area is a public drinking water supply that is routinely tested as required by the federal Clean Water Act. The public drinking water supply is drawn from a deeper portion of the aquifer that does not contain contaminants associated with the Site. Concerns about a historic cluster of cancer cases in the Site area have been referred to the Agency of Toxic Substances and Disease Control (ATSDR) for evaluation and follow-up and the contact information for ATSDR has been provided to the concerned residents.

Comment #7: A resident who lives on Harbour Boulevard wanted to know where more information about contamination at the Site can be found.

EPA Response: EPA Region 2's website, www.epa.gov/region2/superfund/npl/cinnaminson contains on-line information and documents related to the Cinnaminson Groundwater Contamination Site that can be downloaded by the user. Additional Site related information can be reviewed at EPA's information repository located at EPA Region 2, 290 Broadway 18th Floor, New York City, New York 10007 and the Cinnaminson Public Library, 1609 Riverton Road, Cinnaminson Township, New Jersey 08077

Comment #8: A resident who lives on Pompess Avenue asked if information about the cap construction, operation and maintenance, and monitoring can be found on-line.

EPA Response: Specific information about the construction, operation and maintenance and, monitoring of the cap can be found in the Updated Focus Feasibility available at EPA Region 2's website, www.epa.gov/region2/superfund/npl/cinnaminson. The website contains on-line

information and documents related to the Cinnaminson Groundwater Contamination Site that can be downloaded by the user. Additional locations for the Updated Focused Feasibility Study and other Site-related information can be reviewed at EPA's information repository located at EPA Region 2, 290 Broadway 18th Floor, New York City, New York 10007 and the Cinnaminson Public Library, 1609 Riverton Road, Cinnaminson Township, New Jersey 08077

Comment #9: A resident who lives on Hunter Street was interested in the schedule to address Operable Units 1, 3 and 4.

EPA Response: For Operable Unit 1 (groundwater treatment system), a pilot test is being performed to evaluate the effects of shutting down the groundwater treatment system on the contaminant concentrations associated with the landfills. That pilot test is scheduled to conclude in July 2015. For Operable Unit 3, the environmental investigation of the former BOC Gases facility is expected to begin in the summer/fall 2014. For Operable Unit 4, which addresses groundwater contamination not otherwise addressed by Operable Units 1 and 3; the environmental investigation is expected to begin in the summer/fall 2014.

Comment #10: A resident who lives on Hunter Street wanted to know how EPA would keep the public informed about the progress of the environmental work.

EPA Response: As part of its community outreach, EPA will periodically update the community on the status of the clean-up for the operable units of the Cinnaminson Groundwater Contamination Site. Updates to the community will include periodic status updates in the form of public availability sessions when key milestones in the investigation and clean-up occur. Repositories for information are located at the Cinnaminson Public Library, 1621 Riverton Road, Cinnaminson, New Jersey 08077 and the EPA Records Center, Region 2 located at 290 Broadway – 18th Floor, New York, New York 10007.

Comment #11: A resident who lives on Taylors Lane wanted to know more about the gas flare currently operating on the landfill.

EPA Response: There are two gas flares present on the landfill that are part of the landfill gas management system. One flare is an enclosed flare wherein the flame is inside of a "tube." This flare operates continuously (except when maintenance is required) and the flame is not visible from any of the streets surrounding the landfill. The second gas flare is a utility gas flare and operates only when the enclosed flare is not operating due to maintenance.

Comment #12: A resident who lives on Pompess Avenue wanted to know more about whose responsibility it is for stormwater run-off from the landfill onto Township property.

EPA Response: Responsibility for stormwater management on the landfills, including run-on/run-off belongs to the owner of the landfill. As part of the landfill closure, the development of a stormwater pollution prevention plan was required and reviewed/approved by NJDEP. There are periodic NJDEP inspections to ensure compliance with the requirements of the stormwater pollution prevention plan as well as routine inspections by the contractor conducting operation and maintenance of the landfill on behalf of the owner. The latest NJDEP compliance

inspection report reviewed by NJDEP and EPA indicated that the facility was in compliance.

Comment #13: A resident who lives on Pompess Avenue asked about the presence of threatened and endangered species in the Pompeston Creek.

EPA Response: EPA will conduct a threatened and endangered species survey as well as an evaluation for critical habitats as part of the scope of work for the Operable Unit 4 remedial investigation.

Comment #14: A resident from Davis Avenue was concerned that the dates of activities provided in the presentation were not correct.

EPA Response: It is EPA's intention that the information presented in the Public Meeting is accurate. Based on the concern raised in the public meeting, EPA reviewed the documents including the previously issued Record of Decision, Administrative Orders and technical documents and verified that the dates of activities presented during the Public Meeting were correct.

Comment #15: A resident from Davis Avenue was concerned that the local tax office was unfamiliar with the vapor intrusion investigation.

EPA Response: EPA typically briefs local officials prior to the initiation of an environmental investigation. Local officials briefed about the vapor intrusion investigation included the Mayor and Director of Public Works of Cinnaminson Township.

Comment #16: A resident from Davis Avenue stated that when he tried to get information about two monitoring wells in front of his house, the individuals doing the work were not forthcoming with any information.

EPA Response: Many times during environmental sampling events, the field sampling team is instructed to not provide any information beyond a point-of-contact to someone who makes an inquiry in the field. The resident was advised that in the future to request a point-of-contact from the sampling team. Alternatively, the resident could reach out to EPA regarding work done as part of the environmental clean-up of the Cinnaminson Groundwater Contamination Site.

Comment #17: A resident from Davis Avenue expressed concern about the potential for bioaccumulation of contaminants in animals (e.g. deer) that graze on the landfill.

EPA Response: The contaminants of concern at the Site (i.e. volatile organic compounds) do not bioaccumulate. The capping system was completed with clean material so that there is no direct pathways to the contamination. If any root systems that are part of the vegetative cover extended below the cap, the contaminants at the Site are not bioaccumulative.

Comment #18: A resident of James Avenue inquired about where historical Site information, including sampling data about the landfill could be obtained.

EPA Response: Historical Site information including sampling data can be obtained from EPA's website at www.epa.gov/region2/superfund/npl/cinnaminson. Documents can also be reviewed at the information repositories located at the EPA Records Center, Region 2, 290 Broadway 18th Floor, New York, New York 10007-1866 and the Cinnaminson Public Library, 1619 Riverton Road, Cinnaminson, New Jersey 08077.

Comment #19: A resident of Davis Avenue was concerned that EPA's presentation at the Public Meeting could be interpreted by residents to mean that the Cinnaminson Groundwater Contamination Site is cleaned up.

EPA Response: The subject of EPA's Public Meeting was the two landfills that are a part of the 400-acre area-wide Cinnaminson Groundwater Contamination Site. The environmental clean-up is being performed in discrete phases of work otherwise known as operable units. The landfills (Operable Unit or OU2) had been previously capped under NJDEP landfill closure regulations and the performance of the landfill capping system (including the landfill gas management system) has been monitored over time. EPA's proposed remedy for OU2 was that no further action was necessary (e.g., no further enhancements to the capping system) to the existing capping system based on its performance over time. This remedial decision will be reviewed every five years by EPA as required under Superfund because contamination is left behind beneath the landfill cap.

The other operable units address existing soil and groundwater contamination. Operable Unit 1 pertains to the remediation of contaminated groundwater. Operable Unit 3 addresses existing soil and groundwater contamination at the former BOC Gases facility and Operable Unit 4 addresses soil and groundwater contamination not covered by Operable Units 1, 2 and 3.

Comment #20: A resident who lives on S. Pompess Avenue commented that there is a relevant environmental report available from the Rutgers Cooperative Extension.

EPA Response: EPA will obtain the contact information and attempt to acquire the report referenced by the resident.

Comment #21: A resident who lives on Harbour Boulevard inquired about how many people were notified about the public meeting.

EPA Response: Approximately 800+ people proximate to the Site were notified by mail. An ad was placed in the Courier-Post on April 30, 2014 informing residents of the public meeting. Township officials were also notified of the date/time of the public meeting.

Part II - Comments Received by EPA via Email.

Comment #1: An e-mail was received by a representative of SC Holdings, Inc. requesting that the Proposed Plan be reissued with the correct legal entities named.

EPA Response: EPA reviewed information, including previous correspondence as well as the Record of Decision issued for OU1 to verify the information in the Proposed Plan. Sanitary

Landfill Inc., (SLI) was a subsidiary of Waste Management, Inc., as that entity was known at that time referred to in the Proposed Plan. SLI merged into SC Holdings on December 21, 1993, and continues to be an indirect subsidiary of Waste Management, Inc. EPA declined to revise with a correction regarding acquisition of a deed notice that is described on page 12 of the Proposed Plan because the name of the entity had no material effect on EPA's preferred remedy. The correct corporate entity acquiring the deed notice is SC Holdings, Inc., and not Waste Management, Inc., as indicated in the Proposed Plan.

ATTACHMENT A

PROPOSED PLAN

CINNAMINSON GROUNDWATER CONTAMINATION SITE – OPERABLE UNIT 2

Superfund Proposed Plan U.S. Environmental Protection Agency, Region II

Cinnaminson Groundwater Contamination Superfund Site
Townships of Cinnaminson and Delran, New Jersey

April 2014

EPA ANNOUNCES PROPOSED PLAN

This Proposed Plan identifies the preferred alternative for cleanup of the landfills that are situated within the Cinnaminson Groundwater Contamination Superfund Site in the Townships of Cinnaminson and Delran, New Jersey. This phase of work or operable unit (OU) is considered OU2. The landfills were closed and continue to be maintained under New Jersey state solid waste regulations; however, when EPA selected a remedy for OU1 of the Site, the agency had not determined whether the landfill caps were adequately protective of groundwater. The United States Environmental Protection Agency (EPA) has determined that the preferred alternative for OU2 is that no action is necessary. Previous response actions at the Site have eliminated existing or potential risks to human health and the environment such that no action is necessary for this phase of work.

This Proposed Plan was developed by the EPA, the lead agency for the Site, in consultation with the New Jersey Department of Environmental Protection (NJDEP), the support agency. EPA, in consultation with NJDEP, will select a final remedy for the landfills at the Site after reviewing and considering all information submitted during the 30-day public comment period. EPA, in consultation with NJDEP, may modify the preferred alternative or select another response action based on new information or public comments. Therefore, the public is encouraged to review and comment on the information presented in this Proposed Plan.

EPA is issuing this Proposed Plan as part of its public participation responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund).

MARK YOUR CALENDARS

Public Comment Period
April 30 – May 29, 2014

EPA will accept written comments on the Proposed Plan during the public comment period.

Public Meeting
May 12, 2014 at 7:00 P.M.

EPA will hold a public meeting to explain the Proposed Plan and the alternatives presented in the Feasibility Study. Oral and written comments will be accepted at the meeting. The meeting will be held at the Cinnaminson Community Center at 1621 Riverton Road, Cinnaminson.

For more information, see the Administrative Record at the following locations:

EPA Records Center, Region 2
290 Broadway, 18th Floor
New York, New York 10007-1866
(212) 637-4308
Hours: Monday-Friday – 9 A.M. to 5 P.M.

Cinnaminson Public Library
1619 Riverton Road
Cinnaminson, New Jersey 08077
(856) 829-9340

This Proposed Plan summarizes information that can be found in greater detail in the *Final Focused Feasibility Study (OU2 FFS) Report on Source Control Alternatives for the SLI Landfills – Operable Unit No. 2.*

SITE DESCRIPTION

The Site covers approximately 400 acres and is considered an area-wide groundwater contamination site. The Site is located in the Townships of Cinnaminson and Delran, Burlington County, New Jersey and includes properties bounded by Union Landing Road, Route 130, River Road and Taylors Lane. The Site area includes two closed landfills, along with residential and light to heavy industrial properties (Figure 1).

The Delaware River is located northwest of the Site and U.S. Route 130 passes southeast of the Site. Two small streams, Pompeston Creek and Swede Run provide run-off from the Site into the Delaware River.

SITE HISTORY/ENFORCEMENT ACTIVITIES

The landfill property within the Site area was originally owned by Lockhart Construction Company and was operated as a sand and gravel mining pit. The depth of the mining excavations ranged from 20 feet to between 60 to 70 feet below the current surface elevation.

During the late 1950s, municipal solid waste was deposited into the completed mining pits while sand and gravel mining continued on other parts of the property. When mining operations ceased in the late 1960s, larger amounts of refuse and solid wastes were deposited into the abandoned pits.

Sanitary Landfill Inc., (SLI), a subsidiary of Waste Management, Inc., purchased the property, which included areas known as the northwest landfill and southeast landfill (collectively, the SLI LFs) in 1970 and was permitted by the NJDEP to continue landfilling operations. Municipal and institutional wastes, bulky wastes, dry and liquid sewage sludge, construction and demolition wastes, vegetable and food processing wastes, and industrial wastes, including hazardous substances were deposited in the two areas. An average of 240,000 tons/year of waste was deposited at the Site during the 1970s. The landfill operations completely filled pits formed by the sand and gravel excavations and rose from 10 to 40 feet above the original surface elevation.

On September 27, 1980, NJDEP issued an Administrative Order to SLI to close the SLI LFs. In 1981, Waste Management, Inc., on behalf of SLI, submitted a closure plan for the SLI LFs, which was approved by NJDEP that year.

As part of the approved closure plan, the two landfill areas were to be capped with 18 inches of clay. The approved closure plan also required the installation of a landfill gas collection and venting system, and the initiation of a groundwater monitoring program. The capping requirements were further detailed in an NJDEP Administrative Consent Order (ACO) with SLI issued in October 1984 and were based on *"Plans for Closure of Sanitary Landfill, Inc.,"* dated May 1984.

Concurrent with the landfill closure activities, groundwater contamination, primarily with volatile organic compounds (VOCs), was detected near the landfills. In October 1984, EPA proposed the Cinnaminson Groundwater Contamination Site to the National Priorities List (NPL) and it became final on the NPL in June 1986.

Verification of groundwater contamination was based in part on the results of groundwater monitoring performed by SLI, as required by the NJDEP-approved closure plan.

The overall Site cleanup is being addressed by EPA in four phases or operable units (OU). Operable Unit 1(OU1) addresses groundwater contamination and was originally expected to be a comprehensive Site remedy. While other potential sources were identified, the OU1 RI concluded that the SLI LFs were a primary source of groundwater contamination. As discussed in more detail below, subsequent investigations have led to other significant VOC sources and additional operable units for the Site *(*see *Scope and Role of the Action*). Operable Unit 2 (OU2) addresses the effectiveness of the existing SLI LF caps. Operable Unit 3 (OU3) addresses the contamination associated with the former BOC Gases facility, and Operable Unit 4 (OU4) addresses any other groundwater contamination outside of areas already under remediation or investigation. The operable units are summarized below.

OU1: Contaminated Groundwater

EPA conducted the OU1 Remedial Investigation (OU1 RI) from 1985 to 1989 to determine the sources, and nature and extent of groundwater contamination. The OU1 RI activities included field surveys, hydrogeologic investigations, groundwater sampling, surface water/sediment sampling and potable well sampling. The OU1 RI identified the presence of VOCs in two aquifers, using data from 87 monitoring wells. VOCs detected in the groundwater included vinyl chloride, 1, 2-dichloroethane, trichloroethene (TCE), tetrachloroethene (PCE), trichloroethane, and benzene.

RESPONSE ACTIONS	**DESCRIPTION AND STATUS**
OU1 ROD September 1990 *Contaminated groundwater*	Addresses groundwater contamination for which a major source is the SLI LFs. Groundwater remedy includes extraction and treatment with reinjection of treated groundwater.
Removal Action September 2010 *Vapor Intrusion (VI) Investigation & Mitigation*	Vapor intrusion investigation at 60 properties. Installation of VI systems at 2 residential properties. VI investigation on-going.
OU2 ROD (2014) The subject of this Proposed Plan. *Landfill cap and gas mitigation system*	Addresses adequacy of previous SLI LFs closure including capping and SLI landfill gas mitigation system enhancements.
OU3 ROD *Contaminated soil and groundwater associated with former BOC Gases facility*	Will address soil and groundwater contamination at the former BOC Gases facility. RI/FS in progress.
OU4 ROD *Area-wide groundwater contamination that has migrated beyond the identified source areas, including the SLI LFs and the former BOC Gases facility.*	Will address groundwater contamination that has migrated beyond identified sources. RI/FS in progress.

EPA conducted a risk assessment to evaluate the potential risks to human health and the environment associated with the Site. The risk assessment concluded that contaminated groundwater is the exposure medium of

greatest concern, resulting in the following OU1 Remedial Action Objectives (RAOs):

- To satisfy applicable or relevant and appropriate local, State and Federal requirements (ARARs);
- to reduce continued degradation of the groundwater; and,
- to prevent contaminants from migrating toward existing municipal drinking water wells.

An OU1 Feasibility Study (OU1 FS) was prepared by EPA and completed in 1989. The OU1 Record of Decision (OU1 ROD) dated September 28, 1990, selected the following remedy to address contaminated groundwater:

- Extraction and treatment of contaminated groundwater from both the shallow and deep aquifers;
- Reinjection of treated water into the deep aquifer; and
- Installation and monitoring of additional wells to ensure the effectiveness of the remedy.

In June 1991, EPA issued a Unilateral Administrative Order (1991 UAO) to Sanitary Landfill, Inc., a predecessor to SC Holdings, Inc., (SCH), which is a subsidiary of Waste Management, Inc. that required implementation of the groundwater remedy described in the OU1 ROD. Pre-design investigatory work provided new information on groundwater flow rates and the extent of contamination. This new information suggested that the OU1 ROD may have overestimated the size and scope of extraction and treatment system needed to achieve all the RAOs. In response to this new information, EPA required revision of the original scope of the OU1 remedial design (OU1 RD). The revised OU1 RD involved changes to the number and location of extraction wells that focused on groundwater releases from the SLI LFs and the properties immediately adjacent and upgradient (north) of the SLI property, to determine whether a smaller scale system could still meet the expectations of the OU1 ROD. The revised OU1 RD was approved by EPA in January 1999.

Construction of the approved OU1 groundwater remedial action (OU1 RA) began in January 1999 and was completed in April 2000. Full operation of the groundwater remediation system began in May 2000. The groundwater remediation system has been in operation since 2000. The groundwater remediation system has captured and treated contaminated groundwater and prevented contaminants from migrating toward existing municipal drinking water wells, which are two of the OU1 RAOs.

SCH has operated and monitored performance of the OU1 RA since 2000, with EPA oversight. After approximately 10 years of operation, SCH indicated that the effectiveness of extraction and treatment system to further improve groundwater conditions in the area downgradient of the SLI LFs had decreased, primarily because the VOC concentrations had been reduced in the extraction zone. In May 2013, SCH submitted a request to perform a "pump and treat system monitoring assessment/shutdown test."

The purpose of the pump and treat system monitoring/shutdown test will be to enable EPA to make a determination regarding the efficacy of continued operation of the groundwater remediation system to address the OU1 groundwater plume. The proposed two-year assessment period will allow

conditions to be rigorously evaluated for a defined period so that conditions before and after the shutdown test can be compared. The work plan for the shutdown test was approved by EPA and initiated by SCH in July 2013.

OU2: Landfill Cap and Gas Mitigation System

Construction of the closure caps for the SLI LFs, pursuant to the NJDEP ACO dated October 1984, began in 1985 and was completed in 1987. In April 1989, NJDEP gave their acceptance of the final cap construction. While not part of the Superfund action, EPA and NJDEP conferred on NJDEP's requirements.

The OU1 FS originally identified and evaluated three source control/landfill cap alternatives. However, the OU1 ROD stated that additional information and data were needed to determine the long-term effectiveness of the existing cap. Therefore, OU2 was not addressed in the OU1 ROD, but rather was to be the subject of a subsequent ROD.

The OU1 RI recognized that the SLI LFs had been previously closed and capped with the approval of NJDEP, under New Jersey solid waste regulations. The OU1 ROD deferred evaluation of a source control action (i.e., the adequacy of the landfill caps) until after the construction and operation of the remedy to address the migration of contaminated groundwater (OU1 RA).

EPA's 1991 UAO included requirements for a remedial design work plan (OU1 RDWP), which included a scope of work for supplemental investigation. The supplemental investigation consisted of installation of additional groundwater monitoring wells, water level measurements and, sampling and analysis of selected existing wells. The purpose of the supplemental investigation was to further define the vertical and lateral extent of the groundwater contaminant plumes.

The EPA-approved OU1 RDWP also included, at SLI's request, a design for an enhanced gas management system. The enhancements included expanding the existing gas management system so that landfill gas was collected more aggressively. Two phases of enhancing the gas management system were implemented and completed between September 1995 and December 1996. In conjunction with SLI's gas management system enhancements, certain drainage improvements were performed that facilitated drainage of stormwater runoff from the surface of the landfills as well as increased the caps' resistance to rainfall infiltration.

The groundwater remediation system has been in operation since 2000 (13+ years), the cap system has been in place since 1987 (26 years) and the SLI gas management enhancement system has been in operation since 1996 (17 years). Together with the OU1 RA, these landfill activities have reduced the continued degradation of groundwater and prevented contaminants associated with OU1 from migrating toward existing municipal drinking water wells.

OU3: Contaminated Soil and Groundwater Associated with Former BOC Gases Facility

A BOC Gases facility (now the responsibility of Linde, Inc.) operated on River Road, upgradient of the SLI LFs. It is within the Cinnaminson Groundwater Contamination Site. In 2008, EPA and Linde, Inc., entered into an Administrative Order on Consent (the "OU3 AOC") for the

performance of an RI/FS to address soil and groundwater contamination that is located on or migrating from the former BOC Gases facility. The work plan is being finalized and the field work for the RI is expected to commence in the spring 2014.

In conjunction with the RI/FS being implemented by Linde as part of OU3, EPA determined the need to perform a vapor intrusion (VI) investigation of nearby residential properties. The VI investigation performed by EPA between March 2009 and December 2010 revealed that vapors from VOCs, including TCE and PCE, associated with contaminated groundwater at the Site are also present in sub-slab soil gas and indoor air at several residential properties. Approximately sixty locations were sampled including residences, day care centers and a commercial building.

A removal action was performed by EPA in September 2010 to install vapor mitigation systems in residences known to be impacted. To date, vapor mitigation systems have been installed in three residences. The VI investigation is on-going and there is a potential that other residential/commercial locations overlying the groundwater plume may be impacted by the VOC vapors.

<u>OU4: Area-wide Groundwater Contamination Not Associated with Previously Identified Sources</u>

OU4 is intended to address groundwater contamination within the area-wide Site that has not been delineated as part of OU1 and OU3 (former BOC Gases facility). EPA is identifying and addressing data gaps in the delineation of groundwater contamination through an OU4 RI/FS. Fieldwork for the OU4 RI is expected to commence in the spring 2014.

SITE CHARACTERISTICS

A component of the 400-acre area-wide groundwater contamination Site is the two unlined SLI LFs operated by SLI and the subject of OU2. The SLI LFs are also known as the northwest and southeast landfills. The SLI LFs are considered a major source of groundwater contamination at the Site.

The SLI LFs are bounded by undeveloped land, a light industrial area and Taylors Lane to the north, Union Landing Road to the south, a wooded and light industrial area to the east and a heavy industrial area to the west. The surrounding area consists of a mixture of retail, residential and light-to-heavy industrial properties.

The Site lies within the bounds of the Delaware River flood plain and, therefore, the topography is very flat. The natural land surface elevation rises from 20 feet above mean sea level (MSL) along River Road to about 80 feet above MSL at Union Landing Road. The SLI LFs are an area of significant relief within the Site. Most of the Site area lies between 30 and 60 feet above MSL.

Geology/Hydrology: The geology of the Site is generally a series of inter bedded sands, clayey sands, and clays overlying bedrock. These strata dip and thicken southeastwards and collectively form the Potomac-Raritan-Magothy Formation (PRM) Aquifer.

There are three hydrogeologic units: the Wissahickon Formation (bedrock); the PRM Aquifer; and the Pennsauken Aquifer. The Pennsauken Aquifer directly overlies bedrock in the northern portion of the Site, just north of the closed landfills, and creates a groundwater mound coincident with an underlying bedrock high. Groundwater flow is radial (i.e. to the north, south, east and

west) from the top of this mound. In the extreme northwestern corner of the Site where the slope of the bedrock high flattens out and the Pennsauken Aquifer directly overlies the PRM, groundwater flows to the east around the bedrock high and continues southeast in the PRM. South of the mound, groundwater flow direction is south-southeast, away from the Delaware River. Depth to groundwater near the SLI LFs and downgradient is 40 to 50 feet below ground surface or MSL.

Historically, groundwater flow was towards the Delaware River. However, that changed due to regional pumping. Water levels subsequently increased regionally due to reduction in water supply pumping (related to greater use of Delaware River for water supply).

Groundwater pumping was eliminated at the municipal supply wells nearest the Site, the New Jersey American Water Company (NJAWC) New Albany Road public supply wells, after approximately 2005-2006. This resulted in a rise in groundwater level and a flattening of hydraulic gradients near the Site. With no pumping at the New Albany Road wells and pumping continuing at other NJAWC wells to the south, flow directions (including contaminant transport) have shifted more to the south/southeast away from the Delaware River.

SCOPE AND ROLE OF THE ACTION

EPA is addressing the cleanup of the Site in four OUs. This is the second of the four planned OUs.

This Proposed Plan for OU2 addresses the adequacy of the NJDEP closure of the SLI LFs through the completed caps and installed landfill gas mitigation systems.

OU1 addresses groundwater contamination for which a major source is the SLI LFs. The groundwater remedy for OU1was described in the September 1990 OU1 ROD.

OU3 addresses soil and groundwater contamination at the former BOC Gases facility being investigated by Linde (a successor to BOC Gases) under the OU3 AOC entered into with EPA in 2008. Upon completion of the OU3 RI/FS, an OU3 ROD will be issued documenting the selection of an OU3 RA.

OU4 addresses groundwater contamination that has migrated beyond the identified source areas. EPA is performing an OU4 RI/FS that will integrate information gathered as part of the three other OUs, as well as gather additional information through supplemental field investigations. Upon completion of the OU4 RI/FS, an OU4 ROD will be issued documenting the selection of an OU4 remedy.

Completion of the work associated with the four OUs will result in a comprehensive RA that addresses area-wide groundwater contamination and is necessary to mitigate the identified unacceptable risks and to protect the public health, welfare and the environment from actual or threatened releases of contaminants into the environment.

CURRENT AND POTENTIAL FUTURE SITE AND RESOURCE USES

Groundwater Uses: Groundwater underlying the Site is considered by New Jersey to be Class GW-2, a source of potable water. However, residents in the area of the Site are currently using a public water supply, which is sampled to assure all drinking water standards are met for VOCs, and other contaminants. The public water supplier pumps water from 17 municipal

wells that tap the PRM Aquifer system. This municipal system includes water treatment systems and regular testing, as required by the Clean Water Act and state regulations. These municipal wells are downgradient of the Site and there is a potential that these wells could be impacted by chemicals in the groundwater plume from the Site. If Site-related contaminated groundwater were to be used as drinking water in the future, elevated human health risks could exist.

Land Uses: Currently, land use in the immediate area of the Site consists of residential properties, farmland, and small to large industrial properties. The SLI LFs currently have the groundwater extraction and treatment system on Site, the OU1 RA remedy. It is anticipated that any future use of the SLI LFs would be commercial or industrial; there are limited passive uses that can be installed on top of closed landfills, such as solar panels for electricity generation.

SUMMARY OF SITE RISKS

Human Health Risk Assessment:

As part of the OU1 RI/FS, EPA conducted a baseline human health risk assessment (BHHRA) to estimate the current and future effects of contaminants on human health and the environment. A BHHRA is an analysis of the potential adverse human health effects of releases of hazardous substances from a site in the absence of any actions or controls to mitigate such releases, under current and future land and groundwater uses.

A four-step human health risk assessment process was used for assessing site-related cancer risks and non-cancer health hazards. The four-step process is comprised of: hazard identification of chemicals of potential concern (COPCs), exposure assessment, toxicity assessment, and risk characterization (see box entitled "What is Risk and How is it Calculated" for more details on the risk assessment process).

COPCs were selected by comparing the maximum detected concentration of each analyte in air, sediment, surface water and groundwater with available risk-based

WHAT IS RISK AND HOW IS IT CALCULATED?

A Superfund baseline human health risk assessment is an analysis of the potential adverse health effects caused by hazardous substance releases from a Site in the absence of any actions to control or mitigate these under current- and future-land uses. A four-step process is utilized for assessing site-related human health risks for reasonable maximum exposure scenarios.

Hazard Identification: In this step, the chemicals of potential concern (COPCs) at the Site in various media (*i.e.*, soil, groundwater, surface water, and air) are identified based on such factors as toxicity, frequency of occurrence, and fate and transport of the contaminants in the environment, concentrations of the contaminants in specific media, mobility, persistence, and bioaccumulation.

Exposure Assessment: In this step, the different exposure pathways through which people might be exposed to the contaminants identified in the previous step are evaluated. Examples of exposure pathways include incidental ingestion of and dermal contact with contaminated soil and ingestion of and dermal contact with contaminated groundwater. Factors relating to the exposure assessment include, but are not limited to, the concentrations in specific media that people might be exposed to and the frequency and duration of that exposure. Using these factors, a "reasonable maximum exposure" scenario, which portrays the highest level of human exposure that could reasonably be expected to occur, is calculated.

Toxicity Assessment: In this step, the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure and severity of adverse effects are determined. Potential health effects are chemical-specific and may include the risk of developing cancer over a lifetime or other non-cancer health hazards, such as changes in the normal functions of organs within the body (*e.g.*, changes in the effectiveness of the immune system). Some chemicals are capable of causing both cancer and non-cancer health hazards.

Risk Characterization: This step summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of Site risks for all COPCs. Exposures are evaluated based on the potential risk of developing cancer and the potential for non-cancer health hazards. The likelihood of an individual developing cancer is expressed as a probability. For example, a 10^{-4} cancer risk means a "one in ten thousand excess cancer risk"; or one additional cancer may be seen in a population of 10,000 people as a result of exposure to Site contaminants under the conditions identified in the Exposure Assessment. Current Superfund regulations for exposures identify the range for determining whether remedial action is necessary as an individual excess lifetime cancer risk of 10^{-4} to 10^{-6}, corresponding to a one in ten thousand to a one in a million excess cancer risk. For non-cancer health effects, a "hazard index" (HI) is calculated. The key concept for a non-cancer HI is that a "threshold" (measured as an HI of less than or equal to 1) exists below which non-cancer health hazards are not expected to occur. The goal of protection is 10^{-6} for cancer risk and an HI of 1 for a non-cancer health hazard. Chemicals that exceed a 10^{-4} cancer risk or an HI of 1 are typically those that will require remedial action at the Site.

screening values for potentially complete pathways. The primary chemicals identified as COPCs and requiring further evaluation in the baseline risk assessment were: benzene, PCE, TCE, vinyl chloride and arsenic.

The updated exposure assessment in the FFS identified potential human receptors based on a review of current and reasonably foreseeable future land use at the area of the Site under consideration for OU2, which is the SLI LFs.

Potential human receptors and associated exposure pathways included the following:

- current exposure of children playing in Pompeston Creek, Swede Run, SLI LF impoundments, other nearby industrial facility impoundments, and a nearby farm pond to COPCs via dermal contact and incidental ingestion of sediments;

- current exposure of residents and workers in the area to COPCs via inhalation of VOCs, and

- current or future exposure of residents to COPCs via ingestion of groundwater from the perched and regional aquifers in the plume area.

The toxicity assessment identified potential effects generally associated with exposure to the COPCs. Two types of toxic effects were evaluated for each receptor in the risk assessment, carcinogenic effects and non-carcinogenic effects. Calculated risk estimates for each receptor were compared to EPA's acceptable range of carcinogenic risk of $1x10^{-6}$ (one-in-one million), or one additional incidence of cancer in a population of one million people, based on exposure to the site-related contaminants under the scenarios described in the baseline risk assessment to $1x10^{-4}$ (one-in-ten thousand), and EPA's acceptable non-cancer hazard quotient less than or equal to a target value of one.

The risk characterization combined the exposure and toxicity information to determine estimated risks to the selected exposure groups. The BHHRA concluded that the following scenario had risks exceeding EPA's acceptable cancer or non-cancer target levels.

- The current and future exposure of residents via ingestion of groundwater resulted in significant risks (6×10^{-3}) which requires remedial action. The risk scenario for the ingestion of groundwater was developed by assuming a resident would install a well in the PRM aquifer within the current area of groundwater contamination. The non-cancer Hazard Index for this scenario was 20.

The BHHRA concluded that the following scenarios did not have risks exceeding EPA's acceptable cancer or non-cancer target levels.

- Risks associated with the inhalation of VOCs by nearby workers or residents to chemical releases from the SLI LFs were evaluated. The results of this assessment revealed that no adverse carcinogenic or noncarcinogenic health effects are likely to occur as a result of exposure to inhalation of VOCs. The cancer risks associated with the inhalation of VOCs by nearby workers to chemical releases from the SLI LFs was 1×10^{-11} and the non-cancer Hazard Index was 5×10^{-7}. The

cancer risks associated with the inhalation of VOCs by nearby residents to chemical releases from the SLI LFs was 7×10^{-11} and the non-cancer Hazard Index was 7×10^{-7}.

- Risks associated with the potential that chemicals detected in surface water and sediment were likely transported by surface water run-off or leachate from the SLI LFs considered the possibility of trespassing children who might play in surface water of the SLI LF basins. Although considered unlikely, this exposure scenario was evaluated and the results of this assessment revealed that no adverse carcinogenic or non-carcinogenic health effects are likely to occur as a result of direct contact to surface waters at or near the SLI LFs. The cancer risks associated with the potential that chemicals detected in surface water and sediment were likely transported by surface water run-off or leachate from the SLI LFs considered the possibility of trespassing children who might play in surface water of the SLI LF basins. The cancer risk was calculated to be 8×10^{-7} and the non-cancer Hazard Index was 9×10^{-3}.

Ecological Risk Assessment:

A Screening Level Ecological Risk Assessment (SLERA) was also performed that describes existing habitats and ecological receptor species that have been noted or are expected to be present on the Site, and evaluates the potential risks associated with the exposure of the biota to surface water, sediment and surface soil COPCs. The EPA uses an 8-step process, including numerous scientific/management decision points, for evaluating potential risks to potential receptors.

The SLERA is intended to allow a rapid determination as to whether the Site either poses no ecological risks, or to identify which contaminants and exposure pathways require further evaluation. Using conservative assumptions about potential ecological risks, it is determined that if no risks are estimated during the screening level evaluation, the ecological risk assessment process stops with the SLERA. If ecological risks are indicated by the SLERA, EPA may proceed to a more comprehensive baseline ecological risk assessment (BERA) to further refine and better evaluate the site-specific ecological risk.

The potential impacts associated with COPCs were assessed for nonhuman exposure at the Site. There are no endangered species or critical habitats located at the Site. It was determined that environmental risks were not significant.

NON-CERCLA RESPONSE ACTIONS AT OU2

The original closure plan developed and implemented by Waste Management, Inc., on behalf of SLI and approved by NJDEP included capping of the SLI LFs as well as installation of a landfill gas collection and venting system, and the initiation of a groundwater monitoring program.

Construction of the closure caps for the SLI LFs began in 1985 and was completed in 1987 and NJDEP gave their acceptance of the final cap construction in 1989.

The capping requirements outlined by NJDEP for the original closure plan included:

- Six inches of topsoil overlying 18 inches of a low permeability soil having a hydraulic conductivity no greater than 1 x 10^{-5} centimeters per second (cm/sec).

The as-built drawings provided to NJDEP in the report entitled: *Certification Report and As-Built Documentation for Site Closure* prepared for Waste Management dated April 1988 documenting cap construction indicated that the actual closure cap system construction consisted of:

- Six inches of topsoil, overlying 6 inches of sand overlying at least 18 inches of low permeability soil (an average of 20.4 inches was placed on the northwest landfill and 22.8 inches was placed on the southeast landfill). The average hydraulic permeability is 4.11 x 10^{-8} cm/sec.

The OU1 ROD issued by EPA in 1990 recognized that the SLI LFs had been previously closed and capped with the approval of NJDEP. The OU1 ROD deferred evaluation of a source control remedy (i.e. capping) until after the construction and operation of the groundwater remedy to address the migration of contaminated groundwater from the SLI LFs.

The EPA approved OU1 RD work plan included a SLI's proposed design for an enhanced landfill gas management system. Two phases of enhancing the gas management system were implemented and completed between September 1995 and December 1996.

The first phase of the SLI gas management system enhancements was performed by SCH from September 1995 through February 1996. This phase consisted of:

- Installation of thirty-four gas extraction wells;
- Installation of a portion of a new main header and lateral piping network;
- Installation of four condensate pump stations and drains;
- Construction of concrete foundations for the new system components; and,
- Installation of a new enclosed gas flare.

The second phase of the SLI gas management system enhancements was performed by SCH from May 1996 through December 1996. This phase included:

- Completion of the header and lateral piping network;
- Installation of ten gas monitoring probes;
- Completion of mechanical and electrical service for the new enclosed flare station and condensate pump stations; and,
- Connection to the existing gas management system.

Since the installation of SLI's enhancements to the active landfill gas management system, four probes have been regularly monitored for evidence of landfill gas migration. None of the measured levels of landfill gas exceeded allowable limits. The gas monitoring data show that the enhanced active landfill gas management system has controlled and further reduced the migration of landfill gas as well as effectively

extracting and treating SLI LFs gas from the SLI LFs.

In conjunction with the active gas management system enhancements, certain drainage improvements were performed that facilitated drainage of stormwater runoff from the surface of the landfills as well as increased the caps' resistance to rainfall infiltration. These improvements consisted of: culverts, rip-rap lined swales, rip-rap or gabion lined downchutes and aprons, rock check dams and swales lined with erosion control matting.

The discharge of stormwater from the SLI LFs is governed by a New Jersey Pollution Discharge Elimination System (NJPDES) General Permit. An associated Stormwater Pollution Prevention Plan (SPPP) that requires annual implementation and inspection re-certifications indicates that the SLI LFs are in compliance with the substantive requirements of the SPPP and NJPDES permit.

The SLI LF caps comply with all federal and any more stringent state "applicable or relevant and appropriate requirements" (ARARs) that are applicable to the management of the SLI LF wastes. The primary ARARs that the SLI LF caps meet are the waste management and disposal requirements promulgated under RCRA including 40 CFR Part 264 as well as the State of New Jersey closure and post-closure requirements under NJAC 7:26. In addition, in accordance with NJAC 7:26-2A.9(c)4, Waste Management, Inc., is in the process of obtaining a deed notice for the SLI LFs. The deed shall provide notice that any future disruption of the closed landfill shall require prior approval from the NJDEP in accordance with N.J.A.C. 7:26-2A.8(j).

STATE ACCEPTANCE

The State of New Jersey concurs with the preferred alternative as presented in this Proposed Plan.

COMMUNITY ACCEPTANCE

Community acceptance of the preferred alternative will be evaluated after the public comment period ends and will be described in the ROD for this Site. Based on public comment, the preferred alternative could be modified from the version presented in this proposed plan. The ROD is the document that formalizes the selection of the remedy for a site.

PREFERRED ALTERNATIVE

EPA recommends the no action alternative as the preferred remedial alternative for the OU2 Cinnaminson Groundwater Contamination Site remedy. The prior installation of the NJDEP-approved landfill cap has mitigated the risk pathway of the waste acting as a contaminant source to groundwater. EPA has determined that no additional landfill capping is required. The SLI LFs capping reduces infiltration of precipitation into the SLI LFs and provides safe management of the remaining material via a landfill cap and gas management system.

Since this alternative will result in contaminants remaining on-site (contained beneath the cap) above levels that would allow for unlimited use and un-restricted exposure, five-year reviews will be conducted.

COMMUNITY PARTICIPATION

EPA and NJDEP provided information regarding the cleanup of the Cinnaminson Contaminated Groundwater Superfund Site to the public through meetings, the Administrative Record file for the Site, and announcements published in the Courier-Post. EPA and NJDEP encourage the public to gain a more comprehensive understanding of the Site and the Superfund activities that have been conducted. The dates for the public comment period, the date/location/time of the public meeting, and the locations of the Administrative Record files, are provided on the front page of this Proposed Plan.

For further information on EPA's preferred alternative for the Cinnaminson Groundwater Contamination Superfund Site:

Perry Katz, Remedial Project Manager
(212) 637-4426
U.S. EPA Region 2
290 Broadway - 19th Floor
New York, New York 10007-1866

Natalie Loney, Community Involvement Coordinator
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290 Broadway – 26th Floor
New York, New York 10007-1866

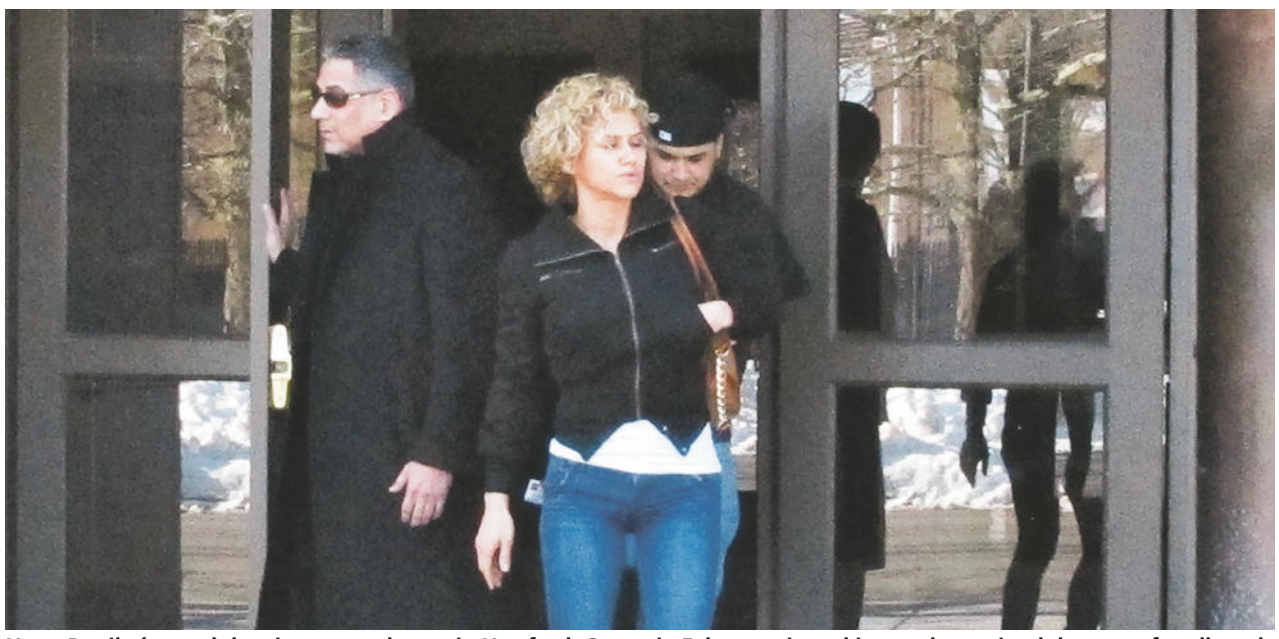
ATTACHMENT B

PUBLIC NOTICE

Former Eagle being sued by ex-girlfriend

Plaintiff in Connecticut accuses Hugh Douglas of multiple assaults

Associated Press



Hope Davila (center), leaving a courthouse in Hartford, Conn., in February, is seeking undetermined damages for alleged physical and emotional harm she said she suffered in assaults by former Eagles defensive end Hugh Douglas last year. AP

HARTFORD, Conn. — An ex-girlfriend of former Philadelphia Eagles defensive end Hugh Douglas accused him in a new lawsuit of assaulting her multiple times, including an encounter at a Connecticut hotel last year that resulted in his arrest but no jail time.

Hope Davila, 33, of Hartford, and her attorney, Gloria Allred, who has worked on several cases involving prominent people, filed the civil lawsuit Monday in U.S. District Court in Connecticut. Davila believes she didn't get justice in the criminal case involving the hotel incident and is seeking undetermined damages for alleged physical and emotional harm she said she suffered in four assaults by Douglas last year.

"The criminal justice (system) failed me," Davila said. "I am hopeful that this civil case will accomplish what criminal case failed to do. I am looking forward to the trial."

Douglas

Douglas' lawyer, Corey Brinson, declined to comment Tuesday, saying Douglas hadn't been served with the lawsuit yet. Douglas didn't return a phone message seeking comment.

Douglas, 42, of Bryn Mawr, Pa., played for the Eagles, New York Jets and Jacksonville Jaguars from 1995 to 2004 and is a former ESPN football analyst.

He was charged in September with felony strangulation and misdemeanor assault in connection with the encounter at a Hartford hotel, but pleaded no contest to misdemeanor breach of peace in February and was sentenced to two years in a probation-like program.

Davila said Douglas picked her up by her neck in a hallway at the Hartford Marriott Downtown and slammed her head into the walls several times. She also said they had sex afterward, even though she didn't want to, but she didn't accuse him of sexual assault.

Douglas told Hartford police that night that Davila's injuries were from "rough sex," according to a police report. Brinson later argued the prosecution's case was weak and Davila was just upset that Douglas refused to pay for breast enhancements for her.

Davila said she and Douglas were in a relationship for about eight months last year and he hid the fact that he was married.

Davila alleges Douglas assaulted her three other times. At his apartment in May, she claimed, Douglas choked her, threw her to the floor several times, smacked her repeatedly and dragged her around the apartment.

Allred said she hopes the lawsuit sends a message to athletes.

"Athletes are often given special treatment by prosecutors. This case should let athletes know that their fame does not matter," Allred said. "They need to be accountable. Pleading no contest does not give them a pass."

ATTACHMENT C

PUBLIC MEETING SIGN-IN SHEET

PUBLIC MEETING TRANSCRIPT

Cinnaminson Groundwater Contamination Superfund Site

Public Meeting

Cinnaminson Community Center

Monday, May 12, 2014 @7:00 PM

PLEASE PRINT CLEARLY

NAME	ADDRESS (with Zip Code)	E-mail
LORETTA ZORN	1300 UNION LANDING RD 08077 CINNAMINSON NJ	
CINDY PIERSON (watchdogs of the Watershed)	622 S ROMPESS AVE CINNAMINSON 08077	Turtlelady5270 comcast.net
Suzanne Day	3 Taylors Lane Cinnaminson	suzanne@riverfarm.org
Mona R. Washington	708 James Ave	Monasex2@gmail.com
Renee Ober-Davis	2108 Hunter St.	WorldAfricaMSN.com
William Towner	923 DAVIS AVE	[illegible]
Mr & Mrs Teresa Kidd	Whitfield Paige 814 Pearl ST	None
TERESA KIDD	528 Kent St Cinnaminson NJ	
Charlie Kidd	528 Kent Street Cinnaminson	
Nate Thompson	EMA, Farmingdale, NJ	
Tahira H. Ali	215 Harbor Blvd, Cinnaminson, NJ 08077	TAli@emgn.com

Cinnaminson Groundwater Contamination Superfund Site

Public Meeting

Cinnaminson Community Center

Monday, May 12, 2014 @7:00 PM

PLEASE PRINT CLEARLY

NAME	ADDRESS (with Zip Code)	E-mail
James Valenti	200 Centennial Parkway, Mt. Laurel 08054	
Zane Clark	108 Kings East Highway, Haddonfield 08033	

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
- -x

CINNAMINSON GROUNDWATER CONTAMINATION

SUPERFUND SITE PUBLIC MEETING

- -x

Cinnaminson Community Center
1621 Riverton Road
Cinnaminson, New Jersey

May 12, 2014
7:00 p.m.

A P P E A R A N C E S:

PERRY KATZ,
Remedial Project Manager

NATALIE LONEY,
Community Involvement Coordinator

MS. LONEY: My name is Natalie Loney. I'm the Community Involvement Coordinator in Region 2. Region 2 covers New York, New Jersey, Puerto Rico, and the Virgin Islands.

And the reason that we're here tonight is we're going to be talking about the Proposed Plan for the Cinnaminson Groundwater Superfund Site.

What's going to happen tonight is that my colleague Perry Katz, who is the Remedial Project Manager, or the engineer in charge of the site, he's going to be presenting on what EPA's proposed remedy is looking at the landfill cap.

Over the course of the evening, he's going to bring you through the history of how we got to where we are and what EPA's Preferred Plan will be.

There's a thirty-day comment period, which ends on May 29. And, so,

you can submit comments formally to his e-mail address. That information will be on the last slide. In addition, you

can mail it to him, and that information will also be on the last slide.

We will also be posting the entire presentation on our web page.

Now, as part of the comment period, you can submit comments to us, as I said, in writing or via e-mail. We also have with us tonight our stenographer, and she will be recording everything that will be taking place over the course of this evening, and you can submit your comments tonight and this will be part of the public record.

Once all of the comments have been received, EPA responds to all of them in something called -- it's part of a larger record which is called a Responsiveness Summary.

That Responsiveness Summary, plus our final decision as to what remedy we'll be implementing at the site, is

part of the Record of Decision.

All of that will be available online, as well as hard copies will be in the library. That will also include

the record of tonight.

Now, I do ask that at the end of this presentation, when you're asking questions, we do ask that you state your name for the record and speak as clearly and as slowly as I am doing right now.

Anyway, let me turn the floor over to Perry. I'll turn down the lights, and he'll do his presentation, at the end of which you can ask questions.

MR. KATZ: Natalie, do you want to wait until the end, or should we -- it's up to you, but it's a small group --

MS. LONEY: I do.

MR. KATZ: You want to do it that way?

MS. LONEY: I prefer to do it that way only because sometimes questions are asked and then they're answered within the next slide or so.

So, if there's something that really is glaring, if you can, take a note, just kind of have a little mental marker -- and I have some extra pens in case you don't have any -- and you can

save that until the end.

Unless there's some word or something that you don't understand at all. We'll clarify that.

Okay?

So, let's get started.

MR. KATZ: Folks, good evening, and thanks for coming out. If I were a betting man, I would have thought it might have even been less than this. But I appreciate your taking the time to come out tonight.

So, as Natalie said, I'm the project manager for the site. I'm actually not an engineer by trade, I'm an environmental scientist. But what I'm going to do, really, is two things.

I'm hopefully going to answer most of your questions through the

presentation, but if I don't, as Natalie said, please try to take a note, and we'll circle back. As Natalie said earlier, this all gets recorded by the stenographer, and, ultimately, we're obligated under the law, in fact, to

provide written responses in the record that Natalie spoke about earlier.

So, you know, this is a formal process in this sense. I'm a relatively informal guy, by nature.

Yes?

MS. WASHINGTON: So, you'll provide responses, but, ultimately -- you will give an answer, but if we disagree with the answer, it's just in the record for later review?

MR. KATZ: It's in the record permanently. And we would -- you know, we evaluate and provide a response, but, on balance, you know, we'll look at the proposal that we've put out, we'll look at the comments. I mean, sometimes decisions can change a little bit.

In this particular case, you'll see as I talk to you about it, I think you're going to find you're going to be more interested in some of the other work that's going on versus the reasons why we're here tonight because this is really to formalize -- as I'll get into

in a little bit, it's really to formalize an action that was taken a while ago, the capping of the landfill.

And, really, it's what's happened since the landfill has been constructed, the landfill caps. It's been a process to document that it's been performing effectively. I'll talk more about that.

I may be wrong, but, you know, there's some other things, there's a lot more work that's coming up that I'll talk to you about.

MS. LONEY: Turn off the lights?

MR. KATZ: Yes.

I can't have anybody nodding out on me.

(Laughter)

MR. KATZ: I don't have any good jokes, so you'll have to work without that.

(Laughter)

MR. KATZ: So, I'm really going to do -- someone who can't tell a joke shouldn't tell a joke, and I'm one of those people.

So, as I started to say in response to Mona's question, I'm really going to do two things. I'm going to brief you on a lot of the other work that's going on, or will go on, I should say. And then I'll kind of ratchet down on, you know, the formality of why we're here tonight and I'll talk about that with you. So, it's really those two major areas that I'm going to speak to.

And I'll see if I can do this correctly. Bear with me, folks.

That's really the agenda right there: Update you on the status of the overall environmental work that's going to go on at the site, and then what our

overall proposed remedy is for one piece of that work that has to do with the construction of the landfill caps and evaluating the performance of those caps over time.

So, just to get everybody oriented -- and, again, I will ask you to bear with me momentarily so I don't make this an eye exam.

(Laughter)

MR. KATZ: When the federal government puts a site on its Superfund list, if you know it by that term, or the National Priorities List, you know, sometimes it's just an individual facility, sometimes it's a much larger area.

And in this case, what's called the Cinnaminson Groundwater Contamination Site is really considered -- the boundaries of it are about four hundred acres.

What I wanted to try to show you just briefly to get everybody oriented,

the focus tonight is going to be talking about these two landfills that have been closed and capped, and, actually, a groundwater cleanup has been going on for upwards of thirteen years.

But just to orient everybody, when the site was put on EPA Superfund list back in the mid eighties, it was approximately a four hundred-acre site, and it's bounded by 130, Union Landing

Road, River Road, and Taylors Lane.

Originally, you know, it was put on because of a groundwater contamination problem that was thought to be at the time mainly from the two landfills. It, in fact, includes the landfills but other areas as well.

Within that four hundred-acre footprint, there's commercial -- as you probably well know, there's commercial areas, residential areas, the two landfills.

And you have to the west the Delaware River and you have -- these

areas in blue are public supply wells that provide drinking water, and I'll talk to you more about that. Those are public supply wells that are tested routinely and, actually, under the Clean Water Act, you're notified about the results of those tests, I believe yearly.

So, that's just to get everybody oriented. That's what we're looking at, four hundred-acre footprint and, mainly,

the two closed landfills that are marked out in yellow there.

Sorry folks, I apologize. It shouldn't be like this the whole evening.

So, I just talked to you about the landfill operations. Those two landfills were owned by the same entity, and they operated from basically 1962 and they closed in 1980. Otherwise, I covered the material there.

Again, to help orient everyone, what EPA does a lot of times is they'll

have a site, and it works -- particularly in a case like this where we're talking about such a large footprint, and they try to tackle it in stages. In government lingo, it's called operable units. It's a phase of work or a piece of work.

And at this site, there's really four discrete phases of work. The first operable unit -- that's what the "OU" stands for -- is the groundwater contamination that's mainly associated

with the two landfills but is not exclusive to that.

The second operable unit, which is really what we'll end up focusing on tonight, has to do with capping of landfills, and I'll go into more detail about that.

The third operable unit has to do with about a 74-, 76-acre parcel. It was the former BOC Gases facility, which folks that live in the area now, Sea Box is there. AFG was there at one time.

There's a multitude of tenants and owners there now. That's subject to an environmental effort.

And then there's a fourth phase of work that really deals with the larger groundwater contamination problem that's not addressed by those first three phases of work.

So, there's really four phases of work going on, and I'll try to briefly summarize where we are with each of those and focus on the second operable unit.

So, the first operable unit, which was the two landfills and originally thought to be a source -- well, it is a source of groundwater contamination, the work there, as I said, it was a major source of the areawide groundwater contamination problem but not the only source.

For those of you that live locally, you know the stuff has been around since the mid eighties. There

were a lot of environmental investigations done out there in the mid eighties. Ultimately, a decision was made around the 1990 timeframe, and that decision was basically to deal with the groundwater contamination that was attributable or associated mainly with the landfills.

And what was done in the nineties was the engineering, design, and, ultimately, the construction of the groundwater treatment system, which means that you pull the groundwater out of the ground that's contaminated, you

run it through a small or moderate size treatment plant, it treats the groundwater, and, in this case, the clean groundwater is reinjected back into the ground. And that system started to operate in 2000 and it's been running up through 2013.

Recently, the owners of the landfill petitioned EPA to look at what would happen if they shut down the

treatment system for a period of time because the groundwater data that we had been receiving over time suggests that what they're pulling out of the ground right now is clean groundwater.

So, we're taking a look at that. That doesn't mean, you know -- it's going to go on for a period. I think the test is for about two years. They're submitting data, we're going to take a look at that, and we'll evaluate where that stands in terms of the ability of that plant to treat any contaminated groundwater associated with the landfills. So, in very concise,

hopefully, terms, that's what that particular piece of work OU 1, Operable Unit 1, is about.

I'll jump to Operable Unit 3 because Operable Unit 2, the cap, is really what I'm going to focus on at the end of this.

As I mentioned, this was the former BOC Gasses facility, and this

piece of work is intended to address soil and groundwater contamination as a result of past industrial operations at that facility.

There's been a lot of -- again, there's been a lot of environmental investigation -- as some of you, if not all of you, realize, the site has been around since the mid eighties, and there's been a lot of environmental investigation work done at that property, which is about 74 to 76 acres, if I recall correctly.

And a lot of that work was performed under the State of New Jersey's oversight as part of the

program that when a company buys or sells property, they're required to do environmental investigation and cleanup work if it's necessary. So, a lot of that earlier work in the eighties and nineties was done under that particular environmental cleanup program.

There's been cleanup work done at

that facility, including -- in a variety of locations, there's been soil excavation and removal of contaminated soil; there's a small system, it's called a soil vapor extraction system, which means it extracts contaminated vapors and treats them from the spaces in the soil. And that contamination in the soil is a result of the groundwater contamination that's at the facility.

So, the successor to BOC Gases corporately is an industrial gas company called Linde, and they have legal responsibility to perform some further investigatory work and, ultimately, determine a remedy to clean up the remainder of the site.

And that work will involve more soil testing, more groundwater testing, both on and off the site, to determine -- it's going to complete the characterization, which is another term in our world, you know, completely characterize the site, figure out the

nature of the problem, and then evaluate how they're going to take care of that problem.

So, that's what that phase of work involves, Operable Unit 3.

There's another piece to this that you may or may not be familiar with, and that has to do with the idea of vapor intrusion. That concept is when you have groundwater contamination with certain -- or soil contamination with certain types of contaminants, they have the ability to move into a gas phase and they volatilize, is the more technical term.

And they can find preventional pathways, like they can move into -- you know, the contaminated vapor can move

into homes, come up through a sump, for example, into your basement or through cracks in the basement. And that concept is called vapor intrusion. It's a relatively new environmental issue, I want to say within the past fifteen,

twenty years at the most, probably less than that.

MS. WASHINGTON: How did the EPA become aware of the two residences where they needed the vapor mitigation systems?

MR. KATZ: You're just a couple bullets ahead of me.

MS. WASHINGTON: Sorry.

MR. KATZ: That's okay.

So, part of this work under Operable Unit 3 -- this issue of vapor intrusion is not just attributable to BOC or now Linde. The contamination in the groundwater has comingled from several places, including that facility, including the landfills, including another facility that is being dealt with by the State of New Jersey, Detrex

on Industrial Highway.

Is that Industrial Road or Industrial Highway?

MS. PIERSON: Industrial Highway.

MR. KATZ: It's not a highway.

(Laughter)

MR. KATZ: And there's others; smaller ones, perhaps.

But to answer your question, Mona, in the '08 to 2010 timeframe -- this preceded my tenure at EPA, but I inherited it when I came onboard and got the project -- EPA had been performing an investigation. And what that involves is -- there's a pretty prescriptive program.

You look at what's in the soil, in the soil gas, it's called underneath the slab, for example, you look at that, you look at the indoor air quality, there's testing that's done, and, depending on what those results are, you can -- and you also actually have to have, actually, a good understanding of potential sources in your home.

You may not be aware, something as simple as if you do a lot of dry cleaning and you bring stuff in from the dry cleaner, stuff can come off of that;

not necessarily that can cause you harm, but it can impact results because the chemicals from dry cleaning, for those that still use certain types of chemicals, are the same contaminants that a lot of times show up in groundwater from historic manufacturing operations.

So, originally we looked at about sixty locations, including residences, some daycares, commercial operations. And, you know, we looked at it based on where we understood the problem to be at the time and what, you know, the groundwater contamination was, the types of chemicals, where the direction of groundwater flow is, a variety of factors.

And as it turned out, there were two residences -- there's thresholds that if they're exceeded, what ends up

happening is you put a -- it's called a vapor mitigation system. It's very similar to what people put in their

house that have radon. You folks might be familiar with that. It's a very similar system. Without trying to get too technical, it's a subslab depressurization. It's basically like a vacuum, and it evacuates the vapors that may be in your basement, typically, or even on another floor of your home, and it evacuates them out.

This is something, particularly when you keep your house closed up, if the vapors accumulate over time, it's something that can cause a health problem. Even though the concentrations may be low, it's a problem that could be a potential health problem over a long period of time. Concentrations would have to be very high to have an acute problem of some type.

So, we identified those two -- Mona, I'm trying to answer your question; if I don't, circle back with

me -- and we have a lot of data that we're looking at. And it's been a

couple years now, so we're going to go back and reassess that.

And we may do additional sampling in the fall or the winter. It's more likely than not we will because we're going to get more information about some of the environmental investigations I want to talk to you about, and that will lead us to look at some other locations.

Lauren, right?

MS. ZORN: Loretta.

MR. KATZ: Loretta, I'm sorry.

MS. ZORN: Loretta Zorn.

What are the two areas, the two residences, the addresses?

MR. KATZ: Loretta, I can't -- I can show you the areas that we're investigating, but I can't pinpoint, believe it or not, for privacy purposes. I can show you the two neighborhoods.

I don't mean to sound like a military secret, but I can't disclose that.

Right, Natalie, we don't disclose

that?

MS. LONEY: Right.

MR. KATZ: I'll go back to the figure and I'll show you the two areas that we've been looking at.

MS. WASHINGTON: This is all paid for by the federal government, there's not a State issue?

MR. KATZ: In this case, Mona -- I don't mean to cut you off.

In this case, because we know that there's private companies that, under the law, have responsibility, we actually go back to them and recover our costs. So, it's not taxpayer money.

Now, this will start to be a bit of an eye exam. I apologize.

There is a -- and perhaps, folks, some of you live in the area --

(Laughter)

MR. KATZ: -- there's a residential neighborhood --

All of you, perhaps.

-- there are three streets over

here, in this area.

And there's another residential neighborhood over here, I believe it is -- no, that's not -- right here.

This predated me, so I apologize I don't know more detail. But if you're concerned and you might not be aware of whether your home was tested back then or maybe you're a recent resident of the area or something like that, you'll just use our contact information and I can try -- I can give a homeowner the information, obviously, so that's not an issue.

But in a public forum, I can't say "these two houses" for privacy reasons.

MS. OBER-DAVIS: This is about the groundwater contamination.

How is that affecting the farms and any vegetables or anything, fruits?

MR. KATZ: The type of contaminants that are at issue here are typically not contaminants that accumulate in food, you know, they're not uptaken by food.

I don't know if this is the case here, but if you were to spray water with the stuff, it will volatilize in the air, generally speaking. It's not -- there are other types of contaminants that do get uptaken in food. Mercury is an example in fish. This doesn't fall into that.

MS. WASHINGTON: Years ago, I remember being told -- by whom, I can't remember -- that the watershed actually runs down on the other side of Route 130, which ran counter to my intuition, because I feel like my neighborhood is a cancer cluster, regardless of what the EPA says.

I'm just saying, I grew up in this area, and just comparing notes with my friends that live in other areas of Cinnaminson, we have more cancer.

So, even though theoretically and scientifically maybe there's something going on under the soil and the water's being shoved to the other side of 130 -- we drink bottled water now, let me put

it that way.

MR. KATZ: Mona, you don't drink water from a private well at your residence.

Right?

MS. PIERSON: No, they shut off our wells back in 1980.

MR. KATZ: I mean, I can't comment on cancer cluster. I just don't know.

But what I can tell you is that as long as you don't have a private well, you know, in your backyard and you're drinking from it, you know, your public supply is tested routinely.

That's not to -- I'm not saying that what you're saying is not accurate --

MS. WASHINGTON: I understand.

MR. KATZ: -- but I'm trying to allay a concern you might have about that, that your public supply is tested, and, you know, it's reported to you I think yearly -- I think we talked about this briefly before -- and you get the results.

So, that, hopefully, can provide some level of assurance about that.

MS. AZIA: Where would you get the information about the houses associated with the contaminated areas that have been identified?

MR. KATZ: We have documents online. I mean, if you really want to start to read information, you know, technical information, that's where it would be. There's information in the local library, some historical information, right over here, if I have my directions right.

MS. AZIA: Is it known to the State epidemiology office that they come out and study the soil and all that stuff?

MR. KATZ: I'm not aware of the New Jersey Department of Health doing anything out here, but, I mean, typically --

Natalie, we would get folks -- if there was an interest, we would get

folks in touch with people at the

Department of Health.

Is that how we would do it?

MS. LONEY: Yes.

EPA, as an environmental agency, we don't do health studies. We do have our partners. Just like New Jersey DEP has a partnership with New Jersey Department of Health and Senior Services, the State health agency, EPA's partner in terms of health is ATSDR --

MR. KATZ: Agency for Toxic Substances and Disease Registry.

MS. LONEY: -- which is a subset of the Centers for Disease Control.

Now, at Superfund sites, there's usually a public health assessment that's done. Many times, ATSDR may not do the assessment itself, they would have the local or, in this case, the State health agency do that. And, so, there should be a record of a public health assessment.

Now, a public health assessment is

not a health study. A public health assessment is more of a qualitative

rather than a quantitative. It's much more of a risk assessment looking at general conditions at a site.

So, that probably would be the first place you may want to look. There should be a copy of the public health assessment in the information repository at the library.

If not, at the end of the meeting -- I mean at the end of the presentation, Perry's e-mail address, and I'll give you mine, you can send me an e-mail, and I'll try to follow up on it.

I just want us to try to move forward because I know a lot of questions are being answered as we move through. I just don't want us to veer off into different subject matter and then we kind of miss the boat on the focus of the meeting.

So, I just want you to try and --

MR. KATZ: The translation is that I'm taking questions and I have to keep going.

(Laughter)

MR. KATZ: Right, Natalie?

MS. LONEY: I'm trying to be diplomatic.

MR. KATZ: This is why she's Community Involvement Coordinator.

(Laughter)

MR. KATZ: If you can, folks, for those folks that want to hear the presentation, let me give that option. But I'll stick around as long as you need to at the end, so you don't have to worry about us leaving.

I just wanted to follow up briefly on your point about your concern about --

And Mona, yours as well.

Like Natalie said, we can get you in touch with folks. And, you know, if the concern -- you know, if there's a number of folks, whether they're here or

not, and they have a concern, we'll point you to those folks. I don't know if you'll get satisfaction, but that's usually what we do to try to get you --

because we're not the folks, as Natalie said, who do that.

I think I finished up on Operable Unit 3 and the vapor intrusion. We are going to be doing more work in the fall and winter, and if you have questions about your particular residence, again, you can e-mail and call me, and I'll try to get you answers to any questions that you have about that.

This last operable unit, No. 4, as I mentioned earlier, this really deals with groundwater contamination that's not being covered by the other phases of work, Operable Unit 1 and Operable Unit 3.

And we're getting ready to go out and do this environmental field investigation hopefully in the late spring/summer of this year. It's going

to involve doing soil sampling, sediment sampling -- surface water, sediment sampling of Pompeston Creek and I think Sweet Run is involved, as well as some further groundwater work.

And I was here recently -- on Cinco de Mayo, actually -- with the Township Committee, their working session, because we're trying to move the work along, and a lot of the property that we're trying to access, whether it's just a walk across to do -- to get into the creek to do a sample or whether it's to do an installation of a well, we need to get property access. And a lot of the property is Township property.

So, I was here on the fifth of May to talk to the Township Committee about that, and we're working through the formalities of getting a formal access agreement, which is what EPA typically has to do whether it's a public entity or private property owner to get that

access. We expect to start that fieldwork in the spring and the summer.

And the whole idea there, just in general, I showed you this four hundred-acre breadbox, for lack of a better word. It's really trying to get

a handle on what remains to be looked at in that breadbox, to make sure we know how big it is and how we'll, hopefully, be able to do any additional cleanup work that has to be done.

So, that's the briefest of summaries on those over three phases of work. So, what I want to try to do now is talk to you in a little more detail, which is what I'm required to do, about this particular phase of work that's called Operable Unit 2.

And as I mentioned at the outset of the meeting, it's -- the intent of this piece of work is to look at whether or not the installation of the cap that was done in the mid eighties and has functioned up 'til the present, has it

been performing effectively?

And if it has been, then the government is basically going to propose that we don't need to do anything else with respect specifically to the cap. And I'll talk to you a little bit more about that.

And Natalie talked to you about these final two points. Obviously, we're here tonight as part of a public meeting, and that's part of our normal process when we do an environmental cleanup.

Starting with the discovery of the site all the way to the final piece of it, you know, we discover a site, we do an investigation to figure out the problem, we evaluate ways to clean up the problem; once we figure out how we're going to clean it up, the engineers design how we're going to do it, and then, ultimately, that remedy gets built and then it gets evaluated over a period of time. That's, in

general terms, our process.

And as part of that, we have specific requirements about community engagement, as Natalie discussed. And that's the public meeting tonight. We're required to do that, and I actually welcome doing it.

And Natalie told you about the

public comment period and talked to you about the presence of the stenographer as another way to get your comments in.

So, let's talk a little bit more about this piece of work.

So, the contaminants that are of concern relating to the landfill, as well as the areawide groundwater problem, are two different types of compounds -- two different types of chemicals: A class of chemicals called volatile organic compounds, and they include benzene, trichlorethylene, which is a solvent known as TCE, an industrial solvent, perchloroethylene is also an industrial solvent that was used a lot

in the dry cleaning industry, vinyl chloride is a breakdown product of those chemicals. And then metals, particularly arsenic, is another contaminant of concern.

This is what was established when they looked at what the problem was coming from the landfills. And, in general, it's part of the overall

groundwater problem associated with the other phases of work that I spoke to you about.

At the time that this evaluation was done, what was the potential human health and ecological concern?

Well, when the government tries to assess potential risks, they look at scenarios that are real and present, and they look at things that could potentially happen.

In this instance, what they looked at is a scenario where either a current resident or a future resident would actually put, for all intents and

purposes, a private well into the contamination and be drinking from that -- you know, drinking from that aquifer over a period of time.

Is it likely that that could happen? No.

Out here, where you have a public water supply, you know, that I mentioned earlier is tested and found to be potable, drinkable, it's not something

that is likely to have been an issue out here, but that's what was evaluated.

And if you did that evaluation, the conclusion was that it could cause -- you know, you could have a significant health risk associated with that from ingesting those chemicals.

So, that was the basis at the time. This is back in the mid to late eighties. That was the basis that the government was able to go forward to the company and say: We need you to do an environmental cleanup. Under the law you're responsible, and we need you to

do an environmental cleanup.

So, that was that aspect of how we get to doing the remedy, doing the capping in this instance.

And then the last bullet, we also look at potential environmental issues. At the time, we looked at threatened and endangered species or critical habitats. At the time, there was a determination that there wasn't a significant environmental risk.

So, with that, just looking briefly at the history of the landfills, the two landfills, with that as background as far as the nature of problem, it was originally a sand and gravel operation from '70 to '80. The State of New Jersey closed the landfill in 1980.

And under their environmental regulatory program dealing with landfills, they approved the closure plan at that time. And that plan included a foot and a half clay cap and

a system to manage landfill gas.

So, what's landfill gas? Landfill gas, typically methane, is common when trash in a landfill breaks down. One of the things it releases is methane. And perhaps -- I don't know if this was the situation here, but in other locations, unfortunately, if you live close to one, sometimes they have an odor if it's not controlled properly. I don't know if that was ever the case historically here.

But that's typically for methane. And there's other potential problems; not just the odor, but if it's not controlled it can migrate and create a problem.

So, in conjunction with the State of New Jersey doing that closure of the landfill and requiring the capping, there was monitoring done in the groundwater, and that's how this original problem of groundwater contamination came to be, through the

work that was done on that first operable unit.

And then when that happened -- this is, again, in the mid eighties -- the site went through a process where it got evaluated and it qualified to become a Superfund site. That was in 1984, '85, '86 timeframe.

So, as part of our process that I mentioned to you before, there is an environmental investigation that goes on. And then, based on figuring out the nature and the extent of the problem,

the government, you know, through its contractors, identifies how they're going to take care of the problem.

And at that time, there were three actions being looked at. And part of that was because in parallel to what was going on as a Superfund site, the State of New Jersey was closing the landfill and capping it. There was other work that was being done on the groundwater, but the capping part of it, which is our

focus here, was looked at.

And, ultimately, EPA, after it evaluated the environmental information from the investigations that were done and was cognizant of what the State of New Jersey was doing with regard to capping the landfill, they documented their remedy in this document called a Record of Decision that Natalie spoke about before.

And what they said was: We're going to treat the groundwater. We're going to extract contaminated groundwater -- I mentioned this

earlier -- we're going to treat it, and we're going to reinject the clean groundwater back into the ground. And, over a period of time, we hope to restore groundwater quality. In conjunction with that, the State of New Jersey is capping this landfill, but we want to see the performance of the groundwater treatment system in conjunction with the capping.

Because what the cap does, how they are -- how they are linked is that the cap is relatively impermeable, meaning rainwater doesn't get a chance -- the cap minimizes the ability for rainwater to infiltrate the cap.

Why is that a problem?

That's a problem because if it flushes through the landfill and the landfill's got chemicals in it, which it did -- the disposal history wasn't just trash, it was industrial waste and other things -- it basically flushes -- if there's not something to control it moving down, it flushes through and it

makes the groundwater -- it increases the groundwater problem.

Hopefully, that makes sense, that's understandable.

So, that was the importance of the capping piece of it. But they wanted is to see how those things worked in tandem before they made a final decision about the cap because a consideration would

have been if there wasn't -- if the groundwater treatment system wasn't working effectively enough, maybe they had to do something else with the cap, maybe they had to change what was being constructed at that time. So, they deferred final judgment on it; administratively, they deferred final judgment on what the cap was going to look like.

So, we're now to a point where since the mid to late eighties into the nineties the cap was constructed and approved by the State of New Jersey, and, as of 2000, there was a groundwater extraction and treatment system

function. So, both of those things were working, they were operating.

So, more recently, the objective of the remedy is, as I mentioned earlier, trying to reduce the degradation of the groundwater that results from contaminants being leached through the landfill.

I just said what I said a minute ago in a different way.

So, in order to document whether or not we are meeting that objective, what are we going to look at with respect to the performance of the cap?

Because we know that the groundwater is being treated and we're getting monitoring results every month. That's part of the groundwater treatment remedy, there's monitoring data collected every month. So, we're seeing reductions in the concentrations of the groundwater contaminants that are related to the landfill, but we have to evaluate the performance of the cap in conjunction with that to verify whether

the decision that was made back then is sufficient.

So, we look at three things: We look at the construction of the cap -- I'll talk to you briefly about that -- how the cap was being maintained, and look at the monitoring of the

groundwater.

With me so far, folks?

Hang in there. We're getting close. There's only 22 slides and we're up to 15.

So, let's talk briefly about the cap construction.

When this thing was done with the State of New Jersey, what the requirements were at the time was six inches of the topsoil -- because they grow cover on it; grass, typically -- I mentioned earlier a foot and a half of low permeability soil, clay or other soil that helps restrict the movement of rainwater through the landfill and prevents or minimizes the flushing that we're concerned about.

And there's -- you know, engineers work with these numbers, and I'm not going to try to bore you to tears with this, but there's a certain specification about how permeable or how much water can leach through. And

that's what this hydraulic conductivity is a measure of and that was the requirement at the time.

So, when the cap was constructed by the Responsible Party, at the end of it, you do measurements and you document what -- you know, whether or not you've met these conditions. And, in fact, what they did and is documented is they did the six inches of topsoil, they added a six-inch drainage layer --

This is a company, by the way, the private party that does this work, they're a waste management company and they do this all over the world. So, you would like to assume if anybody knows how to do this correctly, you would like to think a company like that would know how to do it within reason.

So, they put the topsoil in, they put a drainage layer in because, again, the idea is to facilitate drainage so it doesn't leach down into the landfill contents.

Now, the two landfills. On one of them you had 20 -- roughly 20.4 inches and 22.8 inches of low permeability soil, which exceeds the requirement of 18 inches. So, that's a good thing.

And then you can see that this particular measurement, for those of you who, like me, are not that great at math, perhaps, this number is -- in effect, what it's saying is the ability of water to move through that soil is a lot harder, by almost a thousand times compared to this number.

So, what they did is they put in a cap that exceeded the requirements the State of New Jersey had at the team, which, again, proves to be a good thing, we think.

With regard to other aspects of the cap construction, I know -- I'm

trying not to kill you with this -- they did some other things to improve the drainage. And the importance of the drainage again is the same issue:

Prevent it from going down, move it off to the side, manage it.

Like people have to do with the gutters in your home; you want to direct the water away from your home, for example. It's the same idea on basically 136 acres of landfill.

So, there's things that you can do. These are just different types of swales. There are ways to control the movement of the water, and these are just some different techniques that they've done to do that.

All of them are designed to facilitate the drainage of water away from the landfill, so, again, it doesn't go down. And it helps increase the cap's resistance to rainfall infiltration, as I said.

Another facet of the construction had to do with landfill gas. As I

mentioned to you earlier, methane is a concern about that.

So, when the original work was

done, a cap was put in, and there was a landfill gas management system put in. But what was done over time in the mid nineties, that was enhanced.

These are just a series of bullets that explain the type of enhancements: You know, more wells to extract the gas; more wells to monitor; you know, the infrastructure of the system piping and pumps and drains were enhanced; and a gas flare was put in so when the landfill gas is vented, it's just burnt off.

And probes, there are four probes that are regularly monitored, and that monitoring is showing there hasn't been any exceedances beyond any allowable limits of landfill gas. So, that's that aspect of it.

And then with regard to maintenance of the cap, so, you have this system and you just can't let it go

on its own, there has to be maintenance involved. Again, the State of New

Jersey regulates this through their New Jersey discharge elimination system permit, which the company has with the State. And as part of that, they have to have a stormwater pollution prevention plan.

And the inspections that are required under that program, you know, it was concluded that the company has been in compliance and that -- well, they're in compliance with their permit, which is what you want. That's not to say that there's probably never a violation, but if something's found, from what I've seen, it gets taken care of, you know, before the next inspection. So, if it's a road that needs grading or maybe there's an erosion spot, things like that, they're violations and they have to be taken care of, as examples.

So, the stormwater pollution prevention plan involves regular monthly

and quarterly inspections. And these

are just the types of things that they look for: They want to see if there's distress with the vegetation -- you know, if the site is overgrown, that's not a good thing; if there are areas where there's erosion, that could provide areas where rain can infiltrate down; and they also make sure that the landfill gas management system is doing what it's supposed to do.

And those inspections confirm the inspections have been done regularly and any kind of maintenance items that have come up have typically been addressed. So, I would call these, like, lines of information, lines of evidence, to tell you about the performance of the cap.

MS. PIERSON: All that information is online, as well as you can check the progress at a site.

MR. KATZ: Yes, you can check the progress at a site. I don't know -- we'll have to see whether every report's on there, but they're available --

MS. PIERSON: Most of them are. I've been watching them.

MR. KATZ: So, the last piece of this has to do with the groundwater monitoring associated with the landfill caps. I just want to note to you that the groundwater contamination, what we're talking about here, is what we know is associated with the landfills.

There's a bigger problem that was subject to the other work I was talking about that's going to be investigated and we'll hopefully figure out a remedy. So, I want to try to keep those things straight in your mind. This is just related to the contamination that we know is associated mainly with the landfills.

And before the remedy that I spoke to you about earlier was done, the contamination of the -- excuse me, the concentrations of the contaminants of concern, those compounds I spoke to you about earlier -- PCE, TCE, benzene -- they range from the tens to thousands of

parts per billion, which a part per billion is not a lot, but, depending on the type of chemical it is, you can have a health impact from it.

So, I mentioned since 2000, the system has been operating. And by virtue of operation of the system, the VOC concentrations -- again, those chemicals I mentioned, they're all part of a class of compounds called volatile organic compounds, that's what the VOC stands for -- those concentrations have been significantly reduced; in some instances, less than five parts per billion, which is below the threshold. So, we've seen a benefit from the operation of the groundwater treatment system in conjunction with the cap.

So, if I've explained this reasonably well, I hope, and, if not, I'll try to answer all of your questions, if you look at those two things together, if you look at the performance of the cap and you look at the performance of the groundwater

treatment system, for this particular piece of work, Operable Unit 2, we don't believe any further action is necessary.

There will continue to be groundwater monitoring associated with the first operable unit that will include this; the cap continues to be maintained. I mean, none of that goes away, but what our initial concern was, was do we need to look at this cap and go back and do something else to it? Do we need to add an additional layer? Do we need to enhance its performance?

And the conclusion is we don't have to take any further action with respect to the cap.

So, we believe that the prior installation of the cap has mitigated the risk as it relates to the cap acting as a source of contamination to the groundwater. As you can see, it reduces the infiltration of precipitation movement down into the landfills.

And we believe, looking at the things that I just walked through with

you, the cap construction aspects, the maintenance aspects, and the groundwater monitoring are the kind of lines of evidence that we believe document that proposed decision.

So, that's where -- you know, again, I want to stress that when we come up with a proposed decision to take no action, in this particular case, at this site, there's still going to be a lot of environmental investigation and cleanup that's going to happen, but related to that piece of work, we think that, based on the cleanup work that's been done, that there's no further work that needs to be done on that cap. That's really what the focus is about.

So, I know in the end you hear all that, you say: That's nothing for nothing.

MS. OBER-DAVIS: It's not that.

MR. KATZ: I would understand that.

MS. OBER-DAVIS: There's a second

piece.

MR. KATZ: There's other pieces that have to be done. There's those other three pieces that are ongoing that have to be done to take care of the whole to get -- hopefully, take care of the whole footprint that was originally created.

MS. OBER-DAVIS: I guess one of my questions would be, A, when are the other pieces going to be taken care of?

MR. KATZ: Let me answer that first, Renee; otherwise, I'll forget.

I talked to you about Operable Unit 1, which is the existing pump and treat system. They're currently doing this pilot test to see what happens if they turn the system off.

The third operable unit, the former BOC Gasses facility, that investigatory work -- now, remember, there has been work done out there previously, a ton of work. So, I don't want you to walk out saying: Well,

nothing has ever happened out there.

These things always take longer

than any of us would like. So, I would never try to defend why it takes forever to get this stuff done, but there has been work done out there over time. The next phase of work should start late summer, early fall at the latest.

And then the fourth operable unit, once we get access to Township property, and we have to get some private property access during the process, I would suspect we're talking about a similar timeframe; late summer, early fall before we start to go out there and do it.

And then we do this additional investigatory work and it will be another year or two before final decision is made.

MS. OBER-DAVIS: How will we know what's going to be going on with that site?

MR. KATZ: We'll do a couple of

things.

Every time we make a decision like -- although this one is no action,

we'll be out in front of the public again. And I know Natalie, you know, we're going to refine our mailing list and try to get -- by virtue of the mailing list tonight, we get more people who we know have a more active interest. But, you know, we're obligated to notify you and tell folks what we're doing about that.

MS. OBER-DAVIS: As Mona mentioned earlier, I think one of the most important pieces which you have no control over is the Department of Health ---

MR. KATZ: Right.

MS. OBER-DAVIS: -- doing something in conjunction with this because there have been too many instances where there have been all these cancer clusters and things like that and they've not been addressed.

And I think that's something that really needs to be addressed.

MR. KATZ: Can I ask, Renee, have you folks had interface with the

Department of Health on this already?

MS. PIERSON: Years ago they did surveys of who had cancer in which households, but it's been -- it's got to be twenty years since that survey.

MR. KATZ: Folks, I don't think I'm speaking out of turn, this is the kind of thing where if there's a number of you that feel this way, it's -- we'll get you the contact information, and then, you know, there will be benefit of some numbers expressing the concern and seeing where you go.

I mean, we'll keep tabs on what's going on, but I'd be kidding you if I said --

MS. OBER-DAVIS: No, I understand that.

MR. KATZ: So, I'm not trying to dodge responsibility, but that's just

the reality.

MS. OBER-DAVIS: I understand.

MS. AZIA: Quick comment on that.

When I had to do some research on a cancer cluster in another township

nearby, when we worked with the State epidemiology officer, what ended up happening was they come out and do exactly what they do; they do a survey and get information from people in the area.

But the reason why a lot of times they don't go further is because the people who are affected, when they want to take things further, they have to be individually willing to share personal medical information, background, birth, developmental history, all those kinds of things to put that whole story together.

The problem is that you only get so far; not everyone is willing to do that. So, it makes it very difficult but it's not impassable, it's just that

people have to sort of speak up. And you can only go so far with mailing to one or two people.

MR. KATZ: It has its challenges, you're absolutely right.

Do you have a question?

MS. OBER-DAVIS: No.

MS. DAY: My name is Suzanne Day, D-A-Y.

My question is about the flare. I live pretty close, often drive by it.

So, is there actually a gas flare going all the time?

MR. KATZ: I don't know if it's going continuously.

MS. DAY: Can you see it from the road?

MR. KATZ: It can be a very small thing.

UNIDENTIFIED SPEAKER: You see that flame?

I've seen it.

MR. KATZ: It's almost like -- I'll find out for you, but I think it's

analogous to you know how you put a road flare up?

It's probably bigger than that, but it's analogous to that where it just flares when --

MS. DAY: It may not be visible from the road.

MR. KATZ: It may not be. It depends on where it is in the landfill.

UNIDENTIFIED SPEAKER: We see it right from Union Landing Road.

MS. DAY: Okay. I'm usually coming down Taylors Lane, and I'm not seeing it. It's probably visible from the other side. There's a lot of hills.

MS. PIERSON: A lot of legislation has been passed since this was originally capped on the new stormwater management laws.

Does the remediation company, is their responsibility for the runoff and the edge of the property and then it becomes Cinnaminson Township's responsibility for stormwater

management?

Because if it is, that would explain the flooding.

(Laughter)

MR. KATZ: I'm just trying to think, you know, the property -- in the case of the landfill, the property owner's responsible for making sure --

if it's going off the property, it's legal if it's in a managed way.

So, I don't know. Beyond that, I mean, if the laws change, typically, you know, you have to comply with new regulations, and, you know, that's also sometimes a process. But they're not grandfathered in all aspects.

MS. PIERSON: Another question I have is another law or -- something else that has changed is there are now two endangered species as well as critical ecosystems and habitats in the Pompeston Creek; we have endangered pond mussels, and supposedly that's the prime habitat of bog turtles, although no one has seen

them in thirty years.

MR. KATZ: Let me interject.

When it comes time, that work will be done as part of the fourth piece I talked to you about.

MS. PIERSON: Okay.

MR. KATZ: And, you know, just based on when we met last week and stuff, I'm going to make sure that the

contractor who works with us interfaces with you on that to get information, because, you know, we rely on folks that do the type of things you volunteer to do and other folks to get information like that.

MS. PIERSON: Wait. I have another one.

Okay, no, go to somebody else.

MR. KATZ: That information, I don't know if that's what you had asked, but there's information on the -- in the presentation that will be on that.

Right, Natalie?

MS. LONEY: We'll post tonight's

presentation tomorrow. It should be on tomorrow.

Sir?

MR. TOWNE: My name is William Towne. I live next to Hunter's Farm on Davis Avenue.

Is anybody here from Hunter's Farm?

(Laughter)

MR. TOWNE: A lot of things you've

gone over, a lot of your dates are not correct.

I live there. I was born in a house in that area. So, I've seen that open up with the landfill.

You had 1970. I caught the bus up there in the sixties and there was a landfill. I'm sorry --

MR. KATZ: No, that's okay because if it's incorrect, we'll need to fix it. We want to be correct.

MR. TOWNE: Somebody mentioned also about a farm, said does it have any effect on a farm. That's why I asked

was anybody here from Hunter's.

At one time -- because I talked to the Hunters -- one time they had a lake, a manmade lake, which supplied their irrigation. And they stopped it because it was contaminated.

MS. PIERSON: That was from the creek. Yeah, they had the irrigation pond separated from the creek.

MR. TOWNE: Yes, and they had a pump. They'd pump that.

And at one time, when that landfill was closed, one section of the property wasn't -- they couldn't use it because of that pump.

At one time, there was a lady in the neighborhood named Ann Waxworth. She wandered around the neighborhood taking names on petitions about the contamination of the water.

And we met in this Township building, and the water company said there's nothing wrong with the water. Well, she's now passed on from cancer.

MS. WASHINGTON: My dad died of cancer.

MR. TOWNE: You were saying the seventies and all that. I can't disagree with you with the numbers you're saying; this is cleaned up and this is cleaned up. We have no proof of that. It's just like the government saying, well, this went down; we have no proof.

There's nobody here that can go and say that's correct. You tell us

these numbers. We don't know this. All we know, we're living in it.

We also had a meeting with the tax collector here, and like I asked him -- my house was -- you said for the vapors, they tested my house. They proved that I didn't have any. But my basement is not in the ground.

So, basically, people that have in the ground suffer more of a consequence.

MR. KATZ: Well, there's a potential for it. That's what I tried

to explain earlier, and maybe I didn't do a good enough job.

MR. TOWNE: My question is -- when I talked with the tax assessor, I said: Are you telling the people that buy homes here that they have a problem?

He said: No.

When you look in real estate, they don't mention that there's a Superfund, that originally there was a dump there. People are buying properties and moving into this.

MR. KATZ: William, I want to --

MR. TOWNE: I showed him paperwork I had from a study. He said: I didn't know that they did that study in your area.

I said: Well, our taxes should be reduced.

(Laughter)

MR. TOWNE: I said: You've got to disclose that when you sell your house, that this test was done and it was a problem here, that it's a Superfund,

that there was a dump here.

The Realtors don't do it.

MR. KATZ: You're making a very fair point. We run across this --

MR. TOWNE: And the Township, they said: Well, I didn't know nothing about it.

I said: Wait a minute. You don't know nothing about that dump?

(Laughter)

MR. KATZ: Let me try to address this last thing that you raised, William.

We run across this quite

frequently. You're absolutely right, there's obligation on the part of the seller to disclose if, you know, if they had a system in their house, for example, or -- but it's also -- believe it or not, it's incumbent on the buyer, it's the proverbial buyer beware. I mean, they have to have do homework --

I'm not saying it's good or it's right --

MR. TOWNE: I understand.

MR. KATZ: -- but that's typically what happens.

Normally, we don't find out about local real estate transactions. It's not something that we would typically get involved in. I mean, if someone calls us and says: Is this home within the footprint of the four hundred acres?

We would tell people that and we would explain that to them. And if they said: Well, has there been vapor intrusion data collected there?

We could tell people yes or no, but we would have to tell them to go

back to the property owner for privacy reasons, believe it or not.

MR. TOWNE: I have two wells in front of my house. They're in the street. They wanted to put them in Hunter's property. Hunter said: No, you're not putting any wells in my property.

So, they put them on the street

and they come and test it. So, you go up to them and say: How do they look?

I don't know.

(Laughter)

MR. TOWNE: We're living there, and they can't even give me a little answer.

MR. KATZ: Let me try to explain that.

Why? Because a lot of times, seriously -- I know that frustrates people, but a lot of times the people that go out and do the work, they're technicians or people that are not familiar with the big picture.

The best thing to do in a

situation like that is to try to get the name of who they're representing. They should give you that.

Or you call us. If you have an interest in specific information, reach out to us, and we'll try to provide you that information.

But that's why that happens.

MR. TOWNE: Here's my last one: You mentioned --

MR. KATZ: I'm just trying to explain it to you. I'm not trying to defend anybody.

(Laughter)

MR. TOWNE: Here's another one: Where the property is, where they have all the pipes coming out of the ground, where you say they're cleaning up --

MR. KATZ: On the landfill?

MR. TOWNE: Exactly.

Not too many people know this, probably. Next to the farm, you can see a heard of deer. The deer go and graze on that. Now you said -- they've been grazing on that for years. Now, people

go out and shoot the deer. They don't shoot them and pin them to the wall. They're eating the meat.

So, something has to be wrong.

MR. KATZ: Well, see --

MS. WASHINGTON: But that's on the top of the ground.

MR. KATZ: Here, again, you may not like the answer, but the chemicals that we're talking about in the groundwater are not chemicals that come up into the grass and then, you know, stay in the grass and then the animals eat it and it accumulates in the body. It's not that type of chemical.

MR. TOWNE: Well, we had a few people in the neighborhood -- I won't mention their names -- dig their own wells for, like, the lawns. And they came around and told us: Do not put that water on the garden.

MR. KATZ: How long ago was that?

MR. TOWNE: Since I've been living.

MS. PIERSON: Seventies and

eighties again they told us.

MR. TOWNE: Again. But people had done it.

They didn't come around earlier, they came around maybe later, said: Don't put water on the garden. You can

use it on the lawn.

But meanwhile, the person may have --

MS. WASHINGTON: I have to echo that.

MR. TOWNE: The animals that were eating there could have been drinking out of puddles. They don't have a faucet for them.

MS. WASHINGTON: I also wonder if this could in any way -- if this discussion were taking place about something happening at the golf course, I think there's a race and class issue. I think there's a lot of environmental racism in things.

And what I'm most concerned about is: Who's responsible for what?

Who do I call for what issue, and

who's ultimately responsible?

MR. KATZ: Well, the work that I just described to you tonight is with us, with EPA. So, whether it's Natalie or myself, you know, for any questions

or concerns, that would be a place to start.

I may not have the answer off the tip of my tongue, but I'll do my best to get you answers.

MS. WASHINGTON: Would you have records dating back to the seventies, eighties?

MR. KATZ: What kind of record, Mona?

MS. WASHINGTON: Records of tests that were done, contaminants that were found or not found.

MR. KATZ: They go back to at least the eighties. There's data that goes back to the eighties. I don't necessarily have it at my fingertips, but there's been work that goes back that long.

UNIDENTIFIED SPEAKER: The dump

was open in the seventies.

MR. TOWNE: And the sixties.

MR. KATZ: Don't forget, EPA only came into existence in 1980.

So, some of this work was done earlier than that, but, meanwhile --

MR. TOWNE: They were shipping from Pennsylvania. The hospitals were dumping in there. We had seen, as kids, trucks going out there with legs hanging out the back. The hospitals were dumping there.

Now they want to separate plastics. Everything went in there.

MR. KATZ: William, you're not wrong. At the time, that -- this happened all over the State of New Jersey.

MR. TOWNE: You're telling us now that it's completely clean and --

MR. KATZ: No, I'm not -- see, now, let's hold on.

MS. PIERSON: Cleaner.

MR. KATZ: Hold on, William. This is my environmental education piece of

this talk. I'm not telling you that everything is cleaned up.

What I'm trying to tell you is

that with regard to the landfill cap that was put on, we feel that it's performing effectively. That, in conjunction with the groundwater cleanup that's gone on, has reduced the concentration of contaminants associated with the landfills.

But there's these other pieces of work where there's groundwater contamination, where we're concerned about vapor intrusion, that are still ongoing, taking -- you know, I'm going to say taking much longer than any of us want it to take. Unfortunately, that's the nature of the beast. It's not acceptable, but that's just what happens with these sites.

So, I don't want you to walk out of here tonight and say: EPA says it's all cleaned up.

That's not what we're saying.

Okay?

Because I don't want you to walk out with that. That's the wrong

message. Then I'm not doing my job if that's the conclusion you think I'm coming to. It's not.

I'm not trying to poke at you, I want to try to make sure you understand.

MR. TOWNE: I'm burned up.

(Laughter)

MR. KATZ: If you've got more, you can give it to me. It's okay.

(Laughter)

MS. LONEY: I think just to kind of give an overview of the way Superfund works, we work from where we find the contamination and the condition that it's in moving forward. We really are not equipped to address past concerns, past issues, because we don't have the environmental information and data of what happened back then.

We may have some general records about what may have happened then, but in terms of the quantitative information, the data, what levels of

contamination existed in this water at

that particular point in time, we don't have that.

But what we do when dealing with Superfund sites, the first thing we want to do is arrest exposure. Because you live in close proximity to a Superfund site does not necessarily mean that site poses a health risk. The way a health risk is posed is if you are exposed to contamination from the site.

In the case of this site, there seems to be two exposure pathways; contaminated groundwater and vapor intrusion.

The first one, the contaminated groundwater, that exposure pathway was arrested when people were no longer using private wells as their drinking water source. Now they're using public water supply.

The second exposure pathway, the vapor intrusion, that's where EPA comes out and does the testing and looks at vapors in subslabs. And in certain

cases, vapor mitigation systems were implemented.

Because the Superfund process takes a relatively long time to clean up a site, we don't want people to be exposed to contamination over the length of time it takes for us to remediate a site. So, the first thing that we do, and what has happened here, is that exposure pathway has been arrested.

Unfortunately, we do not have -- as I said before, we just do not have the ability to go back and determine what exposure took place back then. We can only look at what's happening now and moving forward now.

Now that that exposure pathway was arrested, we are looking at the next steps; we're not saying that it's clean, we're looking at the next steps to make sure that that contamination is addressed.

MS. PIERSON: The link for that report here, there are maps in there.

We worked with Rutgers

Cooperative --

MS. LONEY: Which report?

MS. PIERSON: The ten-year study of the contamination of the health of the Pompeston Creek and groundwater that contributed to it.

But we have information from Rutgers Cooperative Extension. If we contact them, they will have more historic data.

Also, County agents, the people that you contacted to test your soil, your ground, where you were going to plant. The agents may be a place to go to see what records they have from any testing that they did in the area because a lot of people that had gardens called the County agent. So, that may be another place to look.

But look up that report. The map's in there. It also shows all of the other sites in our neighborhood, like the Erin Cleaners site in Riverton and Delval Ink & Color, and there are dozens and dozens of EPA-listed sites.

Some are worse than others.

MR. KATZ: There are some that are within the footprint of that four hundred --

MS. PIERSON: And some are in the industrial park on the side, next to our neighbor.

MR. KATZ: Right.

Now, this particular facility, I mentioned this earlier --

MS. PIERSON: They're not Superfund, but they are contaminated sites.

MR. KATZ: -- there's a significant groundwater problem associated with this. This, because it happens to be outside the footprint, is being handled by the State of New Jersey, but I'm talking to my counterpart there to try to keep aware of what's going on because, ultimately -- I didn't want to get too deep into this stuff, but, ultimately, groundwater flows, it actually -- there's a component of groundwater that

goes this way, and there's a component -- because of the pumping, historical pumping of the public supply wells, there's a component of groundwater that does that, basically.

As part of that fourth piece of work that I mentioned earlier, we're going to be out in this area and in here as well putting in more monitoring wells to try to get a handle on what the extent of the problem is associated with that.

So, there's a lot of work to be done, and, you know, we're not at a point where we're going to be out here telling you the whole four hundred-acre footprint is cleaned up. So, I just want to try to be clear about that so you don't walk out with the wrong impression.

MS. LONEY: I just want to give you a little bit more information.

If you go to the epa.gov web page, epa.gov/myenvironment M-Y-E-N-V-I-R-O-N-

M-E-N-T, one word, that takes you to a

web page that EPA runs. And, basically, you put in your ZIP code, and it gives you a whole host of environmental information about your area, including air, water, proximity to Superfund sites. So, it gives you a snapshot of the environmental conditions within your ZIP code.

It's not going to be incredibly detailed. Some of it, it's only based on information that EPA has access to, but it does kind of give people a sense of what's in their community; not only Superfund sites, but general air quality issues and water issues. So, it's epa.gov/myenvironment.

MS. PIERSON: Also look up the DEP Data Miner. They have a lot of information available on that site as well, and it's a lot more detailed.

MR. KATZ: Folks, any other questions?

MS. WASHINGTON: Thank you.

MR. KATZ: My pleasure.

MS. LONEY: Are we ended?

MR. KATZ: I just want to make sure if there are any other questions.

This gentleman is all fired up. I want to answer his questions.

(Laughter)

MS. OBER-DAVIS: I just moved here ten years ago, but my family lived here for years. And I remember as a little girl, my aunt and another woman going around back then trying to alert people to this problem, and that had to be the sixties.

MS. PIERSON: Over a period of years. She did it for decades.

MR. KATZ: I understand.

I know these sites have been around for a long time throughout New Jersey, but we have information that goes back to at least when the investigatory work was done was in the eighties.

And the State of New Jersey

probably has it from earlier than that, I suspect, when they were trying to close down the landfill earlier.

MS. LONEY: Before we close for the evening, I just wanted to, number one, thank you all for coming out, and, number two, remind you that May 29 is the close of the comment period. And you can submit your comments -- if you didn't have an opportunity to do so this evening, you can submit your comments to --

Drum roll, please.

(Laughter)

MR. KATZ: Here we go.

MS. LONEY: Perry, his e-mail address is katz -- K-A-T-Z -- katz.ira-perry@epa.gov. You can submit the information to him via e-mail or you can send it to him via regular mail. It's Perry Katz, U.S. EPA, 290 Broadway, 19th Floor, New York, New York 10007.

So, I encourage all of you -- it's a lot of information to take in. The

Powerpoint presentation will be online tomorrow. You can take a look at it. If you have any questions, you can e-mail them to Perry, and we'll try to

answer them as best as we can.

MS. AZIA: How many people were invited to this meeting?

Does this go out to all Township residents?

MS. LONEY: The mailing list was eight hundred and something. I did the mailing.

So, we did a geographical line around the site. So, about eight hundred and something people were sent notification, and we also ran a display ad in the paper, and we did notify the Township as well.

MS. AZIA: Okay.

MS. LONEY: Thank you all for coming. Thank you.

(Time noted: 8:26 p.m.)

C E R T I F I C A T E

STATE OF NEW JERSEY)

) ss.

COUNTY OF HUDSON)

I, LINDA A. MARINO, a Registered Professional Reporter and Notary Public of the State of New Jersey, do hereby certify that the foregoing transcription of the Public Meeting held at the time and place aforesaid is a true and correct transcription of my shorthand notes.

I further certify that I am neither counsel for nor related to any party to said action, nor in any way interested in the result or outcome thereof.

IN WITNESS WHEREOF, I have

hereunto set my hand this 27th day of May, 2014.

_____

LINDA A. MARINO, RPR, CCR

ATTACHMENT D

PUBLIC COMMENT RECEIVED VIA EMAIL

From: Riegle, Catherine [mailto:CRiegle@wm.com]
Sent: Tuesday, May 20, 2014 9:00 PM
To: Mellott, Deborah
Subject: Cinnaminson

Deborah – As we discussed by telephone, SC Holdings, Inc. requests the PRAP be reissued with the correct legal entities named. To that light, I have attached the Administrative Order and the Closure Certification, which you will note are both under Sanitary Landfill, Inc. Further, you will find attached the Certificate of Merger for Sanitary Landfill, Inc. in to SC Holdings, Inc. I will provide documentation regarding the fact that SC Holdings, Inc. is not a direct subsidiary of Waste Management, Inc. by separate email.

Catherine Riegle Finley
Senior Legal Counsel, Waste Management
9081 Tujunga Ave., Sun Valley, CA 91352
1001 Fannin, Suite 4000, Houston, TX 77002
(818) 252-3141 direct; (866) 591-0540 facsimile
(832) 457-7344 cell

From: Devine, Mark [mailto:mdevine@wm.com]
Sent: Monday, May 05, 2014 5:25 PM
To: Katz, Ira-Perry
Subject: Cinnaminson - Proposed Plan

Corrected – please disregard previous e-mail.

Perry:

As a follow-up to our previous discussion and per review of counsel, SC Holdings, Inc. objects to the use of "Waste Management, Inc." in the Cinnaminson Groundwater Contamination Superfund Site Proposed Plan, and requests that it be stricken from the Plan. The proper party is SC Holdings, Inc., as successor to Sanitary Landfill, Inc. Upon information and belief, at no time was Waste Management, Inc. involved in the closure of the Site, nor is Waste Management, Inc. in the process of obtaining a deed notice. Rather, this work was and is performed by SC Holdings, Inc., as successor to Sanitary Landfill, Inc. Further, neither Sanitary Landfill, Inc. nor SC Holdings, Inc. are direct subsidiaries of Waste Management, Inc. Therefore, SC Holdings, Inc. requests that the Plan be amended to exclude the use of "Waste Management, Inc." and, instead, use the proper party, "SC Holdings, Inc." in its place.

We can schedule a conference call with our respective legal counsels to review and discuss if necessary.

Thank you,

Mark

Mark P. DeVine | District Manager, Closed Site Management Group | Waste Management | (603) 929-5436 (office) | (603) 759-2529 (mobile) | ✉ mdevine@wm.com